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May 8, 1998

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Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: Ex Parte Presentation in CC Docket No. 94-102

Dear Ms Salas:

On May 7, Michael Amarosa of TruePosition, Inc. and I met with Ari Fitzgerald of Chairman Kennard's office to discuss the proposal to implement a strongest signal requirement and the important considerations that counsel against adopting it. Attached are the handouts used in our discussions.

Mr. Amarosa and Tom Korologos of Timmons and Company had met earlier in the day with Commissioner Harold Furchtgott-Roth and Paul Misener of the Commissioner's staff. Mr. Amarosa and Claudia James from Podesta Associates also met with Commissioner Susan Ness to discuss the same topic.

Sincerely,


Philip L. Verveer

cc (w/o attachments):
Commissioner Harold Furchtgott-Roth
Commissioner Susan Ness
Ari Fitzgerald
Paul Misener

rec'd Oct 2

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Ex Parte Submission in Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102

Strongest Signal: Good Motives, Public Safety Policy Failure

The Commission and the public safety community have consistently supported similar public policy goals in the promotion of wireless E911 services. The proposal to implement a strongest signal requirement, however, may in actuality create an obstacle to meeting these joint interests. While on its surface the strongest signal proposal appears to offer improved public access to emergency services, the public safety community's detailed review of the plan has exposed many of its weaknesses. For that reason, the public safety interests participating in this proceeding have elected to oppose a strongest signal requirement.

Automatic Location Information is the linchpin of public safety policy. Since the Commission initiated its inquiry into wireless E911 service, one issue has consistently remained at the forefront of the Commission's policy goals: implementation of Automatic Location Identification (ALI). ALI "permits rapid response in situations where callers are disoriented, disabled, unable to speak, or do not know their location. . . . ALI permits the immediate dispatch of emergency assistance. . . . [and] ALI also reduces errors in reporting the location of the emergency and in forwarding accurate information to emergency personnel." (Report and Order at ¶ 5). NENA, along with APCO and NASNA, has also told the Commission matter of factly that "we can't help them if we can't find them." (NENA Ex Parte communication, Feb. 23, 1998) The Ad Hoc Alliance, which supports the strongest signal requirement, has relied upon a few anecdotal stories to bolster its argument. The public safety community, however, has considered the over 80,000 individuals who rely on E911 services and has determined that the true value of wireless E911 will be realized through improved location technology. Even today, after the implementation of Phase I, a high percentage of emergency callers are not able to be located by PSAPs.

Although the Commission's Phase II deadline is more than three years away, carriers have begun to recognize the value of ALI and have undertaken efforts to implement the technology much sooner than the Commission's rules require. Carriers taking these steps realize that their subscribers, as well as potential subscribers in their communities, are demanding the best safety features available. While the proposed strongest signal requirement may appear on its surface to enhance access to wireless E911, in reality, such a proposal will serve as a deterrent to wireless carriers to deploy ALI.

Implementation of a strongest signal requirement would significantly reduce the accuracy of Phase I location information. As the Commission is well aware, carriers are

building smaller cell sites to satisfy increasing demand for wireless services. The reduction of the size of cell sites has had the added benefit of improving the quality of ALI in Phase I. In other words, the area in which emergency personnel must search for a caller when they receive cell site location under Phase I is reduced, as the total area of a cell site is decreased. A policy implementing strongest signal could thwart technological advancements in ALI accuracy. Generally, carriers emitting the strongest control channels often maintain antenna coverage over a larger area. The Commission, however, should strive to adopt policies which reduce the size of cell sites and improve ALI. A strongest signal regime discourages this result. Thus, the consequence of the strongest signal policy is to reduce the potential accuracy of ALI information in those instances where it is transmitted to the PSAP. Rather than emphasizing improved location technology as part of a socially optimal E911 approach, as the Commission has to date, the strongest signal requirement would actually serve as a disincentive to deployment of ALI without commensurate benefit.

The strongest signal requirement also fails to meet the ALI needs of the public safety community. As NENA points out, PSAPs prefer "to receive a 9-1-1 call with . . . location technology than one with a slightly stronger signal but without Phase I and/or Phase II technology." (NENA Ex Parte communication, Feb. 23, 1998). The public safety community obviously supports the Commission's previous determinations that the true benefits of wireless E911 are only realized when a subscriber's location is transmitted to the PSAP along with the voice call.

Implementation of the strongest signal requirement would serve as a disincentive to carriers considering deployment of ALI. Under the strongest signal proposal the carrier providing presubscribed service is not guaranteed to be the carrier transmitting 911 calls for its customers. Only in those situations in which the subscriber is calling from a location where the carrier's control channel is the strongest will such a call be transmitted on that network. A strongest signal policy would not consider whether a carrier with a usable, albeit weaker control channel signal, has deployed ALI technology. In other words, a consumer who has subscribed to a carrier because it provides better safety protections through ALI would not be assured that the enhanced safety features always would be available. Because a carrier deploying ALI could not guarantee that it could locate subscribers when they call 911, it is less likely that it would invest in technology that may not always be available to its subscribers. Thus, a wireless provider hoping to increase its market share through early deployment of ALI is stripped of any marketing advantages warranting such an investment. As noted by the public safety community,

[t]he 'strongest signal' concept will cripple the ability to market 9-1-1 location service. . . . [E]ven if we are able to convince the carriers to move forward with location technology, who will take accountability for moving the caller from his carrier of choice, with location technology, to the other carrier which does not have location technology and is, therefore, unable to provide the location data for which the subscriber may be paying a premium? (NENA Ex Parte communication, Feb. 23, 1998)

The public safety enhancements the Ad Hoc Alliance hopes to realize through a strongest signal requirement can be better achieved by mandating in-region roaming in those instances where a caller is unable to receive any signal, and by fostering improved tower siting. The potential problem being addressed through the strongest signal proposal can be better addressed through the recommendations made by NENA and WEIAD. As NENA has noted, the true issue which should be the focus of the Commission's attention is not the decibel level at which an emergency call is being transmitted, but rather improving the likelihood that every call gets to the appropriate PSAP. To realize this goal, the Commission should take steps which permit a subscriber to secure access to a carrier, any carrier, in those rare instances where the presubscribed carrier may not be providing any service -- a coverage gap. To overcome instances of a complete coverage gap by a presubscribed carrier, handsets can be programmed to roam on the network of another carrier providing service in that area. This provision will assure consumers that when they subscribe to a carrier which has deployed ALI, and has a usable signal, their location is being transmitted to the appropriate PSAP every time their carrier transmits a 911 call. Such a guarantee cannot be made if the Commission mandates strongest signal carriage. At the same time, mandating roaming in a coverage gap will substantially increase the likelihood that a call will reach a PSAP during an emergency -- meeting the purpose of the strongest signal requirement.

Implementation of coverage gap roaming will provide consumers with the same benefits of strongest signal, in what will most likely be a shorter period of time. As recommended by WEIAD, two efforts can be undertaken to rapidly introduce handsets that would roam in a coverage gap area. First, WEIAD supports educating consumers about the existing capability of a handset to be programmed, where capable, to use the "A" or "B" channel for 911 calls. Second, WEIAD recommends that analog handsets manufactured after a specified date be programmed to automatically use either channel in a coverage gap area. (WEIAD Joint Report, Appendix A, Jan. 30, 1998) Mandating coverage gap roaming will require a modification of all handsets to "switch" frequencies when the consumer is dialing 911 in certain areas. This software reprogramming is likely to be much simpler than implementing entirely new strongest signal technology. Although both proposals would require a phase-in period of implementation, a policy requiring coverage gap roaming would assure that more calls get through much sooner than a strongest signal requirement.

Rather than mandate strongest signal with its negative side effects, the Commission should strive to address the problem of coverage gaps at its root cause: the inability of carriers to secure sufficient tower sites. Most carriers strive to provide coverage throughout their service area. In those rare instances where a carrier is not providing adequate service in a particular area, it is often caused by restrictions imposed by others on the carrier's service. Several parties in this docket have petitioned the Commission to take steps to resolve this problem. For instance, improved tower siting on federal property consistent with the mandate in the Telecommunications Act of 1996 as well as the President's 1995 Executive Memorandum would go a long way towards improving wireless E911 coverage. Strict adherence to the principles of Section 332 would also improve E911 coverage by prohibiting communities from restricting the placement of antennas in optimum locations.

The strongest signal proposal raises many technical issues which have yet to be resolved. A strongest signal requirement raises complicated technical issues which have not passed through the regular standards-setting processes for technical approval. The Commission should not accept the implicit suggestion of those supporting a strongest signal requirement that it co-opt the normal industrial standards procedures. NENA has also addressed several issues in this matter and has proposed solutions which may not interrupt the deployment of ALI. Consistent with the recommendations of the WEIAD, any inquiry into the strongest signal as well as any other proposals, including NENA's, which attempt to improve wireless E911, must be remanded to the appropriate Standards Development Organization. (WEIAD Joint Report, Appendix A, Jan. 30, 1998)

Upon close examination many of the benefits of strongest signal are not as they appear. The Commission should resist the temptation of implementing a policy based on very limited anecdotal evidence. Adoption of the strongest signal proposal of the Ad Hoc Alliance would unnecessarily thwart the development of valuable E911 location services.

“STRONGEST SIGNAL” – GOOD MOTIVES, BAD SAFETY POLICY

The Ad Hoc Alliance for Public Access to 911 has advocated that the FCC require new analogue and dual mode cellular handsets to access the “strongest control channel” when 9-1-1 is dialed. This idea has surface appeal, but it would be detrimental to public safety. It has been strongly and officially opposed by the state and local government officials who run the nation’s 9-1-1 systems (the National Emergency Number Association, the Association of Public Safety Communications Officials, and the National Association of State Nine-One-One Administrators) as well as the wireless industry.

All wireless public safety advocates share two goals: completing wireless 9-1-1 calls and being able to deliver emergency services to the callers. But the proposal advocated is contrary to that goal, will block 9-1-1 calls in some instances, and will create disincentives to meeting the much more important public safety goal of being able to locate wireless 9-1-1 callers, which cannot be done today.

The far better answer is to encourage the development of full coverage by all carriers (siting policy), find ways to encourage early implementation of the FCC’s E9-1-1 rules (so victims can be located from the 83,000 wireless 9-1-1 calls today), and address the issues raised when one carrier has coverage and the other does not (automatic roaming for 9-1-1 calls).

57 million Americans now subscribe to and use wireless networks based on a “usable signal” design, and current plans to implement E9-1-1 are based on that as well. Before the FCC decides to alter that fundamentally to “strongest signal” based on an idea advanced due to some anecdotal evidence, it should fully consider the intended and unintended consequences of the proposal, and require that it be subjected to intense scrutiny by technical experts.

- o “Strongest signal” seeks to address situations where the subscriber’s cellular carrier has a “dead zone”, but the other cellular carrier provides coverage. This can be solved without creating the problems discussed below by twin policies: overcoming federal and local barriers to antennae siting, and requiring new analogue and dual mode cellular telephones to “roam” to the other cellular carrier’s system when 9-1-1 is dialed and there is no signal from the subscriber’s carrier. This would be a minor requirement on manufacturers, and would be implemented just as fast as the “strongest signal” proposal. As many phones in service today have this capability, but are simply not programmed to do this, a concurrent consumer education program would improve on the “strongest signal” proposal.
- o By definition, “strongest signal” would totally eliminate the carrier that has the weaker (although usable) communications signal in a given area from processing any calls and force all 9-1-1 traffic to the carrier with the stronger forward control channel (FOCC). A “strongest signal” requirement would thus reduce the capacity to transport

emergency calls from an emergency area by approximately 50 percent. This means that 9-1-1 calls could be blocked. Beyond multiple calls about different aspects of single crash (including calls about the initial crash, and then perhaps calls about victim status), this could also include simultaneous events on different highways served by the same cell site.

- o Incidents separated by many miles using widely separated cell sites could have 9-1-1 calls blocked if they happened to all be forced onto the same carrier by a strongest signal requirement. Usually a wireless carrier has only one switch for a state and it has a set number of trunks to 9-1-1 centers (PSAPs), based on general traffic patterns. In other words, wireless switch to PSAP trunking capacity could be reduced by 50% - - regardless of the availability of a perfectly satisfactory voice channel and available 9-1-1 trunks from the other carrier. It makes no sense to redesign calling patterns this way when 9-1-1 agencies and carriers have designed carrier trunking capacity to 9-1-1 centers based on their traffic.
- o The strongest control channel will not always deliver the strongest voice channel. That antenna may have its voice channels occupied, so the call might be directed to an antenna with a less powerful voice channel than the subscriber's system would have provided.
- o From a public safety perspective, it is far more important to receive a 9-1-1 call with some form of location information than one with a slightly stronger signal.
- o Given the fact that carriers are putting in smaller and smaller cell sites, and that "strongest signal" would eliminate the "weaker" carrier, in the near term (with the implementation of the FCC's "Phase I" rule which requires that carriers provide cell site and sector location for 9-1-1 callers) the proposal would reduce the accuracy of Phase I location information (more powerful signals cover bigger areas, making it harder to find victims), and often direct calls to a more distant PSAP, particular in areas with multiple jurisdictions with their own PSAPs.
- o The number one wireless 9-1-1 public safety issue is actual caller location - what the FCC calls "Phase II". Some carriers are seriously thinking about installing Phase II caller location technology much sooner than the 2001 deadline - because they believe it will not only serve public safety, but will provide a competitive advantage. They will be able to attract more customers because they can advertise that they can locate them in emergencies, whereas their competitors cannot.
- o A "strongest signal" rule would significantly reduce a carrier's incentive to move forward with location technology before the 2001 deadline because a carrier which spent millions to install a real location system would not be able to deliver that to its customers. All else being equal, a high percentage of their 9-1-1 calls would be diverted to another carrier's network, which would not provide location, even when the subscriber's carrier had a perfectly usable signal.

- o It makes no sense to impose a rule which has the effect of delaying locating the millions of annual wireless 9-1-1 calls which go through, and blocking others, in order to get some undetermined number of calls completed – particularly when there are other ways to do exactly that, without these negative effects.

- o The Ad Hoc Alliance has expressed concern about some examples of 9-1-1 calls which allegedly “tagged” the carrier’s control channel, but where the power was not strong enough on the voice channel to complete the emergency call. The Public Safety organizations and CTIA say there is no evidence of this category of calls. But the Ad Hoc Alliance is apparently not aware that TruePosition’s location technology locates on the control channel, so TruePosition would produce a location record of any such uncompleted 9-1-1 calls, which would be forwarded to the appropriate PSAP so they could deliver help.