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

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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	)	

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

To: The Commission

REPLY COMMENTS OF AMERITECH

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SUMMARY

Ameritech Corporation (Ameritech), by its attorneys, respectfully submits these Reply Comments concerning the Comments filed in response to the Further Notice of Proposed Rulemaking[1] (FNPRM) in this matter.

As discussed herein, no commenters have resolved the issues that Ameritech raised in its Comments concerning the processing of non-code identification 911 calls and the completion of incompatible 911 calls. Many commenters state that the Commission's proposed accuracy requirements are not technically and economically feasible. And no commenters have demonstrated the need for maximum latency requirements and the updating of location information during a 911 call. Furthermore, although some commenters proposed to place the burden of consumer education on specific parties, none of these commenters justified singling out any specific parties, rather than having all entities involved in the provision of E911 services participate in determining how consumer education will be accomplished.

For these reasons, Ameritech requests the Commission to adopt rules in accordance with Ameritech's Comments in this proceeding.

[1] Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, RM-8143, FCC 96-264, released July 26, 1996 (Report and Order and Further Notice of Proposed Rulemaking).

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REPLY COMMENTS OF AMERITECH

Ameritech Corporation (Ameritech), by its attorneys, respectfully submits these Reply Comments concerning the Comments filed in response to the Further Notice of Proposed Rulemaking[1] (FNPRM) in this matter.

Ameritech supports the Commission's efforts to facilitate the improved provision of wireless E911 services. However, as stated in Ameritech's Comments, Ameritech opposes requirements: (a) to transmit non-code identification 911 calls, whether or not the PSAP has requested it; (b) to provide a specific level of accuracy for location information; (c) to complete calls that are not compatible with their systems; and (d) to comply with any maximum[2] latency requirements as well as any requirements to update location information during a 911 call. As discussed

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[1] Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, RM-8143, FCC 96-264, released July 26, 1996 (Report and Order and Further Notice of Proposed Rulemaking) [hereinafter Report and Order and FNPRM].

[2] Although the FNPRM, para. 142, refers to "minimum" latency periods, Ameritech assumes the Commission meant to refer to "maximum" latency periods.

below, no commenters have resolved the issues that Ameritech raised concerning the processing of non-code identification 911 calls and the completion of incompatible 911 calls. Many commenters state that the Commission's proposed accuracy requirements are not technically and economically feasible. And no commenters have demonstrated the need for maximum latency requirements and the updating of location information during a 911 call.

Ameritech also requested the Commission to permit industry trade organizations and public safety organizations to determine how consumer education goals should be met. Although some commenters proposed to place the burden of consumer education on specific parties, none of these commenters justified singling out any specific parties, rather than having all entities involved in the provision of E911 services participate in determining how consumer education will be accomplished.

For these reasons, Ameritech requests the Commission to adopt rules in accordance with Ameritech's Comments in this proceeding.

These issues are discussed below.

I. The Commission Should Not Require Covered Carriers to Transmit All 911 Calls

Ameritech and the majority of the parties that filed petitions for reconsideration in this proceeding have requested the Commission to eliminate its requirements for carriers to transmit non-code identification 911 calls at the request of

PSAPs. Ameritech and other commenters similarly oppose the Commission's proposal to require covered carriers to transmit to PSAPs all 911 calls (i.e., including non-code identification calls that have not been requested by a PSAP).[3]

Ameritech bases its opposition to these requirements on four factors: (a) the inability to call back the non-code identification caller; (b) the possibility of increased prank calls and fraudulent calls; (c) the nonexistence of a method to limit carrier liability for any errors that occur in their processing of a 911 call from a non-code identification equipment user; and (d) the inability to recover the cost of processing non-code identification calls from the user.[4] American Portable Telecom, Inc., AT&T Wireless Services, Inc. (AT&T) and Southwestern Bell Mobile Systems, Inc. (SBMS) agree.[5]

The National Emergency Number Association, the Association of Public-Safety Communications Officials-International, Inc. and the National Association of Nine One One Administrators (collectively, the Public Safety Associations) recognize the problems created by the inability to call back non-code identification callers. Thus, they oppose any requirement for carriers to transmit all 911 calls, and prefer the current rule which requires carriers to transmit 911 calls only at the request

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[3] FNPRM, para. 149.

[4] Ameritech Comments at 2-7.

[5] American Portable Telecom, Inc. Comments at 2; SBMS Comments at 3-5; AT&T Comments at 6.

of the PSAP.[6] Although Ameritech opposes any requirements to process non-code identification calls, Ameritech agrees that if the Commission were to retain any requirement to process non-code identification calls, the Commission should retain the current rule.

The International Association of Fire Chiefs, Inc. and the International Municipal Signal Association (IAFC/IMSA) and the Ad Hoc Alliance for Public Access to 911 (Alliance) support the Commission's proposal to require carriers to deliver all 911 calls.[7] Alliance proposes that a pseudo-ANI technique can be used to callback non-code identification users. Alliance asserts that this technology would cost $50,000 per cellular system.[8] Ameritech requests the Commission to refrain from requiring carriers to adopt such technology until the industry has had the opportunity to investigate the technical and economic feasibility of this approach.

In any event, Ameritech notes that none of these commenters have resolved the issues raised by Ameritech concerning prank calls, liability and cost recovery. The Commission therefore should grant the requests of the numerous parties who have requested the Commission to eliminate the requirement to transmit non-code identification calls at the request of the PSAP. The Commission accordingly should not adopt its proposal to expand

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[6] Public Safety Associations Comments at 7.

[7] Alliance Comments at 2; IAFC/IMSA Comments at 5.

[8] Alliance Comments, at 9, Appendix E.

the requirement to process non-code identification calls in the future.

II. The Commission Should Not Require Carriers to Complete Calls that Are Not Compatible with Their Systems

Ameritech and many other parties opposed the Commission's proposal to enable 911 calls to be completed regardless of whether the mobile user seeking to place a 911 call has a radio compatible with the closest wireless service.[9] Ameritech's opposition was based on: (a) the issues of callback, prank calls, liability and cost recovery, as discussed above in the context of non-code identification calls; (b) the possibility that all wireless carriers would have to support all wireless frequencies and protocols, if a system-based solution were adopted; (c) the potential for a 911 call to be transmitted concurrently by more than one wireless service provider; (d) the increased battery size, increase handset size, and increased cost, that would result from a hand-set based solution; and (e) the increasing ubiquity of wireless coverage areas which eliminates the need for such a requirement.[10]

Although the Public Safety Associations state that they agree with the Commission's proposal, in actuality they agree

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[9] FNPRM, para. 147; e.g., American Mobile Telecommunications Association, Inc. (AMTA) Comments at 6; Omnipoint Comments at 4; CTIA Comments at 7; AirTouch Comments at 6; GTE Comments at 6-7; 360° Communications Comments at 6; PCIA Comments at 13; Rural Telecommunications Group Comments at 8; TIA Comments at 12-16.

[10] Ameritech Comments at 7-9; see also PCIA Comments at 12 (stating that dead spots are being eliminated).

with Ameritech. The Public Safety Associations state that 911 callers should be able to use the strongest signal using the same basic technology and frequency range as the caller's home carrier.[11] In other words, they advocate the provision of 911 service to roamers. Ameritech agrees with such a requirement.

Alliance proposes that cellular 911 calls be carried by the strongest compatible signal.[12] Alliance states that cellular phones capable of using both analog and digital formats, would be able to access either type of cellular system.[13] Alliance does not provide any cost estimates for dual-mode phones. Additionally, customer demand should dictate the availability and use of dual-mode handsets, not Commission regulations. Ameritech therefore submits that this observation should not be expanded into a requirement that all cellular handsets operate as dual-mode handsets.

Like the Public Safety Associations, Ameritech also is concerned that accessing systems based on different technologies or frequencies could require expensive and bulky multi-mode handsets,[14] contrary to the industry trend of offering and supporting smaller handsets at lower cost. Ericsson, an established manufacturer that has great expertise in this area,

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[11] Public Safety Associations Comments at 6.

[12] Alliance Comments at 3; FNPRM, para. 135.

[13] Alliance Comments at 3.

[14] Public Safety Associations Comments at 6; Ameritech Comments at 9.

agrees that a handset-based solution could have a chilling effect on the growth of the wireless industry.[15]

Alliance proposes a combined handset-based and system-based solution for allowing users to place 911 calls over any system.[16] Alliance asserts that all wireless systems should be required to handle calls over separate, unlicensed, cordless phone 900 MHz spectrum.[17] Ameritech opposes this proposal for the same reasons Ameritech opposes system-based solutions in general. Alliance's proposal would require carriers to make upgrades to their wireless systems at enormous costs to the carriers which would have to be passed on to end users. Also, Alliance's proposal could result in a 911 call being transmitted by more than one wireless service provider, thereby resulting in duplicative calls being received by the PSAP.

Associated RT, Inc. (ART) proffers a different combined handset-based and system-based solution. ART proposes to require all wireless handsets to support cellular frequencies using the AMPS protocol.[18] Thus, according to ART, any wireless handset would be able to access the two cellular carriers in any area.[19] Ameritech objects to this proposal for the same reasons that it objects to Alliance's proposal. Also, ART's proposal represents

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[15] Ericsson Comments at 6.

[16] Alliance Comments at 6.

[17] Id.

[18] ART Comments at 9.

[19] Id.

a step backward in technology for handsets and for cellular systems, which are both moving to digital, rather than analog, technology.

In sum, due to: (a) the unresolved issues of prank calls, liability and cost recovery; and (b) the technical complexity and costs of implementing system-based and handset-based solutions, Ameritech requests the Commission to not adopt this proposed requirement.

III. It Is Too Soon to Require 90% Accuracy Within a Radius of 40 Feet, Using Longitude, Latitude and Altitude Data

Ameritech also opposed the Commission's proposal for covered carriers to provide PSAPs with information that locates a wireless 911 caller within a radius of 40 feet, using longitude, latitude, and altitude data, for 90 percent of the 911 calls processed.[20] Ameritech stated that such requirements are premature technically and procedurally (due to pending petitions for reconsideration of the location requirements).[21] Nextel, Ericsson, AMTA, Omnipoint, CTIA, AirTouch, GTE, PCIA, Lucent Technologies, Bell Atlantic NYNEX Mobile, Inc. (BANM), SBMS, AT&T

[20] FNPRM, para. 138; Ameritech Comments at 9-12.

[21] Ameritech Comments at 10-11.

and Nokia agree.[22] ART notes that location technology has not even been tested for use with digital phones.[23]

IAFC/IMSA quote the Commission's statement that, based on KSI's Reply Comments, it is possible to implement location information technology that can identify a 911 caller's location with a reliability of 90%.[24] The IAFC/IMSA request the Commission to adopt such stringent requirements.[25] However, a reliability percentage is meaningless without also specifying the associated distance (or "area of uncertainty," as it is referred to by KSI[26]). For example, a reliability of 90% for location determinations within 1000 miles would be achievable by any cellular system, but would have no use to emergency response personnel. Additionally, IAFC/IMSA and the Commission appear to have taken KSI's statements out of context. KSI proposed the use of 90% reliability for distances of 125 meters in urban areas and 1000 meters in rural areas.[27] As noted by ART, "there is a finite mathematical and empirical relationship between accuracy

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[22] Nextel Communications, Inc. Comments at 2; Ericsson Comments at 4; Nokia Telecommunications, Inc. Comments at 2; AMTA Comments at 5; Omnipoint Comments at 2; AirTouch Comments at 3; CTIA Comments at 2-3; GTE Comments at 3; PCIA Comments at 4; Lucent Technologies Comments at 3; BANM Comments at 2-4; SBMS Comments at 5; AT&T Comments at 2.

[23] ART Comments at 13.

[24] IAFC/IMSA Comments at 4 n.3.

[25] Id. at 4-5.

[26] KSI Comments at 5.

[27] KSI Reply Comments (CA) at 5.

points and coverage percentage."[28] Thus, the reliability percentage cannot be considered in a vacuum.

KSI admits that no location system may be able to economically provide location accuracy to within a radius of 40 feet, 90% of the time, in all environments.[29] Raytheon E-Systems similarly states that "order of magnitude" accuracy improvements are unlikely in the foreseeable future.[30] Harris-GCSD agrees that a requirement of 90% reliability within 40 feet is unrealistic and impractical.[31] Harris-GCSD further points out that this requirement would mandate the placement of location equipment on virtually every street corner.[32] ART states that the cost of compliance with the proposed accuracy requirement can be a significant multiple of the cost of compliance with the current accuracy requirement.[33] ART notes that receiving antennae would need to be located at the street level and at the high point of each building,[34] and in any event, no location technology has been field tested that provides the accuracy proposed by the Commission.[35] Ameritech similarly knows of no

[28] ART Comments at 27.

[29] KSI Comments at 5.

[30] Raytheon E-Systems Comments at 1.

[31] Harris-GCSD Comments at 4.

[32] Id.

[33] ART Comments at 11, 29-30.

[34] Id. at 32.

[35] Id. at 26.

location technology that is available today that provides altitude information. In sum, the equipment manufacturers and Ameritech agree that the Commission's proposal for 90% accuracy within 40 feet for three-dimensional location information should not be adopted.

The Commission should not blindly adopt more stringent accuracy requirements, as IAFC/IMSA, and Alliance request.[36] IAFC/IMSA and Alliance do not consider the fact that Commission "requirements" are "laws." Although under IAFC/IMSA's proposal, the accuracy requirements would provide an incentive for the wireless equipment manufacturers, it is the carriers, not the equipment manufacturers, who would be liable for non-compliance. To encourage the development of more accurate location equipment, the Commission could adopt goals, not regulations, but even these goals should be adopted with input from the wireless industry. Raytheon E-Systems states that the Commission should not even go this far.[37] Raytheon E-Systems and ART state that if the Commission were to suggest that it will increase accuracy requirements, carriers may delay investing in location

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[36] IAFC/IMSA Comments at 4. The Texas Advisory Commission on State Emergency Communications (TX-ACSEC) requested the Commission to adopt more stringent "requirements" as "goals." TX-ACSEC Comments at 1. If TX-ACSEC indeed meant to use the word "goals," Ameritech would not object to the Commission establishing such goals.

[37] Raytheon E-Systems Comments at 1.

technology, and thereby curtail the financial support needed to fund the technological advances.[38]

The Public Safety Associations also are concerned that altitude data "may be difficult to obtain in a cost-effective manner with current technology."[39] But the Public Safety Associations then suggest that the Commission could eliminate the vertical data requirements in rural and other geographic areas that have few structures over two stories.[40] That suggestion makes sense. Altitude data has little use in areas with one-story buildings. However, if altitude data is difficult to obtain in a cost-effective manner, it also should not be required in areas with taller buildings, and should not be subject to the 90% accuracy requirement which is supported by the Public Safety Associations.

Additionally, KSI and Raytheon E-Systems recommend that altitude should not be included in the location information required by the Commission.[41] Just as requiring accuracy improvements may stifle investment and innovation, Raytheon E-Systems submits that altitude information should not be required

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[38] Id.; ART Comments at 3-4.

[39] Public Safety Associations Comments at 4; see ART Comments at 33.

[40] Public Safety Associations Comments at 4.

[41] KSI Comments at 6; Raytheon E-Systems Comments at 2.

until experience is gained through widespread deployment of two-dimensional systems.[42]

The Public Safety Associations recommend that the Commission establish a certification system for location equipment vendors.[43] Ameritech supports the development of standards for the location equipment. However, Ameritech suggests that the Commission should permit the standards-setting bodies to establish such standards and testing mechanisms, if necessary.

In sum, many commenters agree that it is technologically premature for the Commission to adopt its proposed accuracy requirements.

IV. The Commission Should Not Establish a Maximum Latency Period and Should Not Require Location Information to Be Updated During the 911 Call

In its Comments, Ameritech stated that it would likewise be premature to require wireless service providers to supply location information to the PSAP within a certain period of time (e.g., 5 seconds) after the 911 call is made, and to periodically update the location information during the 911 call (e.g., every 10 seconds).[44] Ameritech stated that there is no documentary evidence demonstrating the need for such requirements, which would unduly burden wireless carriers with liability for the acts

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[42] Raytheon E-Systems Comments at 2.

[43] Public Safety Associations Comments at 5.

[44] FNPRM, para. 142; Ameritech Comments at 12-14.

of local exchange carriers and PSAPs which also participate in the transmission of 911 calls.[45]

KSI Inc. and MULOC Inc. (collectively, KSI) and the Public Safety Associations support the requirement for a maximum latency period, but provide no documentary evidence showing the need, and do not explain why wireless carriers should be responsible for the transmission time of a call that depends on the acts of other carriers.[46]

ART admits that latency requirements for wireline systems are not universal, but requests latency requirements to be imposed universally on wireless systems.[47] ART gives no justification for the disparate treatment of these systems.

KSI and the Public Safety Associations also support periodic updates of location information but do not explain why mobile Good Samaritans, who represent approximately 97% of callers, need to have their location updated.[48] The Commission therefore should reject KSI's and the Public Safety Associations' comments in this regard.[49]

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[45] Ameritech Comments at 13-14.

[46] Public Safety Associations Comments at 4.

[47] ART Comments at 15.

[48] Id.

[49] PCIA Comments at 9 (agreeing that the updating of location information is of limited utility).

ART explains that requiring location information to be updated would be technically complex and require increased hardware investment.[50]

In sum, there still is no documentary support for imposing latency and location update requirements, which would unduly burden wireless carriers and result in increased costs for implementing location technologies. The Commission therefore should not adopt the proposed latency and location update requirements.[51]

V. Upgrades and Improvements Should Be Determined by Standards-Setting Bodies

Ameritech also requested the Commission to permit industry standards-setting bodies to determine how 911 service may be deployed, and if necessary, require the standards-setting bodies -- not the covered carriers -- to submit annual reports on developments in 911 service. TX-ACSEC supports the establishment

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[50] ART Comments at 19; see also GTE Comments at 5 (stating that no latency period or location information update requirements should be adopted at this time because location technology has not been thoroughly tested and validated under live testing simulations)..

[51] See Lucent Technologies Comments at 6 (stating that latency period and location updating requirements should not be adopted); Rural Telecommunications Group Comments at 5 (opposing latency and updating requirements); AT&T Comments at 3-4 (opposing latency requirements).

of an ad hoc advisory committee which would prepare annual reports.[52]

VI. Consumer Education Should Be Developed by the Industry and Public Safety Organizations

Finally, Ameritech suggested that the Commission should establish national consumer education guidelines concerning the use of wireless 911 services, which could be developed into a uniform, nationwide consumer education plan by the wireless industry and the relevant public safety organizations.

Although the Public Safety Associations advocate the use of consumer information inserts and labels to accompany wireless phones, they also would be agreeable to working with the wireless industry and their own members to develop effective consumer education programs.[53] TX-ACSEC similarly suggests that wireless carriers and public safety organizations could work together to develop specific suggestions or proposals by consensus.[54]

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[52] TX-ACSEC Comments at 3; see also 360° Communications Comments at 3-5 (suggesting that the Commission need not adopt any monitoring regulations because market mechanisms will ensure that the most cost effective technologies are discovered and deployed); PCIA Comments at 10 (suggesting that PSAPs are best suited for the proposed monitoring function).

[53] Public Safety Associations Comments at 7.

[54] TX-ACSEC Comments at 4; see also CTIA Comments at 9 (stating that CTIA has been educating the public on the use of wireless 911).

E.F. Johnson, on the other hand, asserts that consumer education should be the service provider's responsibility.[55] Alliance also asserts that consumer education campaigns should be determined by organizations representing the public safety community and the wireless industry, but should be funded only by the wireless industry.[56]

No commenter has provided any justification for placing the sole responsibility for implementing or funding consumer education on the wireless industry. The Commission therefore should reject these suggestions, and permit public safety organizations and the wireless industry to determine consumer education programs, with the funding being determined by state and local governments.

VII. Cost Recovery

Although the Commission did not request comment on cost recovery, Alliance asserts that the Commission should establish guidelines for PSAP-cellular agreements, and that "these agreements should include provisions for the carrier to reimburse the PSAP for public funds used to deploy ALI technology out of new revenue streams that accrue to the carrier as a result of the availability of these new technologies."[57] Alliance provides no documentary support for its allegation that carriers will be able

[55] E.F. Johnson Comments at 7.

[56] Alliance Comments at 11.

[57] Alliance Comments at 5.

to provide other services using location technologies, or what the corresponding revenue impact would be. Additionally, Alliance does not mention the fact that emergency service systems will reap benefits from the more efficient use of PSAP and emergency service operators who will be able to spend less time determining the location of the emergency and more time dealing with the emergency itself. Similarly, the emergency response personnel will be able to more efficiently locate the scene of emergencies. Furthermore, cost recovery will be determined by state and local governments, not the Commission.

For these reasons, the Commission should reject Alliance's proposal.

CONCLUSION

For the foregoing reasons, Ameritech respectfully reiterates its requests that the Commission:

* Refrain from adopting any requirements to transmit non-code identification 911 calls, regardless of whether the PSAP has requested it.
* Refrain from requiring wireless carriers to complete calls that are not compatible with their systems.
* Refrain from imposing accuracy requirements for location information, because it is too soon to determine the accuracy levels that will be technically feasible. However, if such requirements were adopted, Ameritech suggests that

the terms "longitude and latitude" be replaced with terms that permit the use of other measurement standards.

* Refrain from imposing maximum latency periods and requirements to update location information during a 911 call.
* Let industry standards-setting bodies establish technical standards for upgrades and improvements to 911 systems.
* Permit the industry and public safety organizations to determine how consumer education goals should be met.

Respectfully submitted,
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