

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

In the Matter of)
)
Revision of the Commission's Rules) CC Docket No. 94-102
To Ensure Compatibility with) RM-8143
Enhanced 9-1-1 Emergency Calling Systems)

MEMORANDUM OPINION AND ORDER

Adopted: December 1, 1997

Released: December 23, 1997

By the Commission: Chairman Kennard and Commissioner Tristani issuing statements.

I. INTRODUCTION AND SUMMARY

1. On June 12, 1996, the Commission adopted a Report and Order and a Further Notice of Proposed Rulemaking in this docket, establishing rules requiring wireless carriers to implement 9-1-1 and Enhanced 9-1-1 (E9-1-1) services. The Commission received 16 petitions for reconsideration of the E9-1-1 First Report and Order. By this action, we resolve the petitions for reconsideration or clarification of the rules we adopted in the E9-1-1 First Report and Order.

2. Thirteen of the petitioners urge the Commission to reconsider the rules governing when covered wireless carriers must make 9-1-1 access available to callers. Three petitioners request the Commission to modify or defer the implementation dates of rules requiring covered carriers to provide 9-1-1 access to people with hearing or speech disabilities through the use of Text Telephone Devices, such as TTYs. Five petitioners seek reconsideration of our decision with respect to the wireless carriers to whom the rules apply, particularly for "covered Special Mobile Radios (SMRs)."

3. Five petitioners raise issues concerning the E9-1-1 Phase I requirements that covered carriers must provide call back numbers and cell site location information, and six petitioners challenge the adoption of the E9-1-1 Phase II requirements of Automatic Location Identification (ALI). With regard to other policy issues, six petitioners request the Commission to reconsider its decision not to provide Federal limitation of liability with respect to actions taken by carriers in efforts to comply with E9-1-1 requirements, and five petitioners seek reconsideration of the Commission's decision not to establish a Federal funding mechanism for the recoupment of carrier costs associated with achieving compliance with E9-1-1 requirements.

4. Following the initial round of comments on the petitions, two additional rounds of comments were requested by the Wireless Telecommunications Bureau to supplement the record. The first concerned technical issues regarding the transmission and screening of 9-1-1 calls. The second

concerned proposals contained in a joint ex parte letter from representatives of the wireless industry and the public safety community to resolve or defer consideration of various issues raised on reconsideration.

5. In this Memorandum Opinion and Order, pursuant to Section 1.429 of the Commission's Rules, we decide (1) to modify our rules by requiring wireless carriers to transmit all 9-1-1 calls without regard to validation procedures and regardless of code identification; (2) to temporarily suspend enforcement of the requirement that wireless carriers provide 9-1-1 access to customers using TTY devices until October 1, 1998, but only for digital systems and subject to a notification requirement; (3) to modify the definition of "covered SMR" for E9-1-1 purposes to include only providers of real-time two-way interconnected voice service the networks of which utilize intelligent switching capability and offer seamless handoff to customers, and to extend this definition to broadband Personal Communications Services (PCS) and cellular as well as SMR providers; and (4) to clarify the Phase I requirement for call back numbers and modify associated rule definitions. We also reemphasize that our rules are intended to be technology-neutral, and to encourage the most efficient and effective technologies to report the location of wireless handsets, the most important E9-1-1 feature both for those seeking help in emergencies and for the public safety organizations that respond to emergency calls.

6. The limited revisions to our rules we adopt today are intended to remedy technical problems raised in the record while otherwise reaffirming our commitment to the rapid implementation of the technologies needed to bring emergency assistance to wireless callers throughout the United States.

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II. BACKGROUND

A. E911 First Report and Order

7. The E911 First Report and Order was the culmination of extensive efforts by the public safety community, the wireless telecommunications industry, and the Commission to implement E911 for wireless services. In addition to over 110 comments and reply comments on the E911 Notice, the record included a Petition for Rulemaking filed by Ad Hoc Alliance for Public Access to 911 (Alliance) and a Consensus Agreement filed by the Cellular Telecommunications Industry Association (CTIA) and three national public safety organizations - the Association of Public-Safety Communications Officials International, Inc. (APCO), the National Emergency Number Association (NENA), and the National Association of State Nine One One Administrators (NASNA).

8. In adopting the E911 First Report and Order, the Commission recognized the importance of improving the quality and reliability of 911 services available to wireless callers. Although 911 was originally developed for wireline telephone users, the number of wireless 911 calls is growing rapidly, paralleling the dramatic increase in wireless telephone subscribers in the United States, currently more than 50 million. According to CTIA, more than 21 million emergency wireless calls were placed in 1996 in the United States. This amounts to more than 59,000 wireless 911 calls each day. Unlike wireline E911 systems, which allow automatic number identification and automatic location identification of wireline 911 calls, however, the phone number and the location

of the caller cannot be displayed at the Public Safety Answering Point (PSAP) for wireless calls and many wireless 911 callers have difficulty describing their exact location to emergency assistance providers.

9. In the E911 First Report and Order, therefore, the Commission established the following requirements for wireless carriers, including cellular, broadband Personal Communications Service (PCS), and certain SMRs:

Basic 911 Capabilities

Within 12 months after the effective date of E911 rules (i.e., by October 1, 1997), carriers must process and transmit to an appropriate PSAP all 911 calls from wireless handsets which transmit a code identification, without user validation.

By this date, carriers must also process and transmit calls that do not transmit a code identification to any appropriate PSAP which has formally instructed the carrier that it desires to receive such calls from the carrier.

By this date, carriers must also be capable of transmitting 911 calls made by persons with disabilities, e.g., through use of TTY equipment.

Enhanced 911 Capabilities

Phase I:

Within 12 months of the effective date of the rules (i.e., by October 1, 1997), carriers must have initiated actions necessary to relay a caller's Automatic Number Identification (ANI) and the location of the cell site receiving a 911 call. These capabilities are designed to allow the PSAP to call back the phone placing the 911 call if disconnected, and help identify the location of the caller.

Within 18 months (i.e., by April 1, 1998) the carriers must have completed these actions.

Phase II:

Not later than five years after the effective date of the rules (i.e., by October 1, 2001), carriers are required to have the capability to identify the latitude and longitude of the mobile units making 911 calls within a radius of no more than 125 meters, using Root Mean Square calculations (which roughly equate to success rates of approximately 67 percent).

Phase I and Phase II E911 Conditions:

The E911 requirements apply only if:

(1) the carrier receives a request for such services from a PSAP capable of receiving and using the service, and

(2) a mechanism for the recovery of costs relating to the provision of such services is in place.

B. Ex Parte Filings, Stay Order, and Additional Comments

10. After the close of the formal pleading cycle for reconsideration petitions, several parties filed ex parte presentations in this proceeding. In light of technical issues raised by a number of parties in their ex parte presentations, a Public Notice was issued by the Wireless Telecommunications Bureau on July 16, 1997, seeking additional comment regarding certain technical issues pertaining to the 911 availability requirements established in the E911 First Report and Order. On July 28, 1997, twelve additional comments were filed in response to the July 16 Public Notice. The Wireless E911 Coalition (Coalition) also filed ex parte presentations and a formal petition, requesting an extension of at least 18 months (in the case of digital systems) of the deadline for achieving compliance with TTY compatibility requirements. On September 16, 1997, the National Association of the Deaf (NAD) and Consumers Action Network (CAN) jointly filed their opposition to the Coalition's request for extension.

11. On September 25, 1997, CTIA, PCIA, APCO, NENA, and NASNA jointly filed an ex parte letter, proposing their consensus recommendations to the Commission. In the Joint Letter, the parties request the Commission (1) to revise Section 20.18(b) of its Rules to require carriers to "process all successfully validated 911 wireless calls and to process all 911 wireless calls where requested by the 911 authority"; (2) to amend Section 20.18(b) to reflect that the exercise of PSAP choice regarding receipt of all 911 calls or only successfully validated 911 calls "may not be possible until the Phase II location technology is in place"; (3) to extend the TTY implementation deadline in Section 20.18(c) of the Commission's Rules with respect to digital systems for 18 months until April 1, 1999; and (4) to defer any Commission decisions regarding "carrier liability, certain call-back capabilities, strongest signal technology, the use of temporary call-back numbers, and the status of uninitialized phones" until the relevant parties develop consensus positions. Congresswoman Eshoo and Alliance filed ex parte letters opposing the proposals.

12. Because the Commission had not completed its review of pending petitions for reconsideration, and in light of a number of ex parte filings recently made in this proceeding, on September 30, 1997, an Order was issued by the Wireless Telecommunications Bureau, pursuant to its delegated authority, to stay the October 1, 1997 implementation date for subsections (a), (b), and (c) of Section 20.18 of the Commission's Rules through November 30, 1997. Subsequently, on October 3, 1997, a Public Notice was issued by the Bureau seeking further comment concerning issues raised in the Joint Letter. Twelve comments and five reply comments were filed in response to the October 3 Public Notice. On November 20, 1997, CTIA, PCIA, NAD, CAN, Telecommunications for the Deaf, Inc. (TDI), and Gallaudet University filed a consensus ex parte letter, proposing a 15-month extension of the TTY compatibility requirement deadline until January 1, 1999. In the TTY Consensus Agreement, PCIA agrees to amend its initial request for an 18-month extension of time, and NAD and CAN also agree to withdraw their opposition to PCIA's extension request.

FCC Final Order CC Docket 94-102, Part 3

III. DISCUSSION

A. 9-1-1 Availability Without Customer Validation

1. Background, Petitions and Further Pleadings

13. In the E9-1-1 Notice, the Commission proposed requiring wireless carriers to transmit all 9-1-1 calls from service initialized handsets without a requirement for user validation. "Service

initialization" means that a user is purchasing service from a wireless carrier. In the E9-1-1 First Report and Order, the Commission decided this approach would unreasonably prevent a significant number of wireless customers from accessing 9-1-1 service and would result in customer confusion.

14. To address this situation, the Commission required transmission of 9-1-1 calls from all handsets which transmit "code identifications," so long as the handset is compatible with the carrier's air interface protocol. "Code identification" was defined in Section 20.3 of the Rules to mean a handset that transmits the 34-bit Mobile Identification Number (MIN) typically used by cellular or PCS licensees, or the functional equivalent of a MIN in the case of SMR services. The Commission recognized that this approach could result in the delivery to PSAPs of 9-1-1 calls made by non-subscribers, but concluded the public interest would be best served by assuring that all code-identified 9-1-1 calls are transmitted without the delay and blocking that may result from the validation processes used to determine whether a handset is in service with a wireless carrier.

15. In addition, the Commission required that carriers transmit all 9-1-1 calls, even those without code identification, if requested to do so by a PSAP Administrator. We recognized a strong case in favor of transmitting all 9-1-1 calls, but also acknowledged disadvantages to transmitting 9-1-1 calls without a code identification. These include the fact that ANI and call back features may not be available or usable, and hoax and false alarm calls might be facilitated. We concluded, however, that each public safety organization is in the best position to determine for itself whether to accept calls without code identification. Further, we concluded that this requirement would not impose an unfair regulatory burden on wireless providers relative to wireline carriers. The Commission noted that major wireless carriers already process 9-1-1 calls without validation, and reasoned that users of public pay phones, the closest wireline analogy to a wireless handset, are able to place 9-1-1 calls without charge in many states as a result of state and local government requirements.

16. In pleadings filed during the formal reconsideration pleading cycle, thirteen of the sixteen petitioners, primarily wireless carriers, urge the Commission to reconsider its rules governing the transmission of 9-1-1 calls to PSAPs. In their petitions, some carriers support the original proposal to require transmission only of calls from service initialized phones. CTIA, for example, proposes that carriers be permitted to validate and block calls from non-service initialized handsets when this can be done without a call processing delay. In support, the carriers claim that in some cases the code identification would not be unique to the phone, for example when (1) a manufacturer programs its handsets with "dummy" MINs and the customer uses the handset directly "out of the box" after purchase without initiating service, or a customer terminates service and the number is reassigned; (2) the phone number is "cloned"; or (3) the handset is marketed and designed only for 9-1-1 use. In these cases, parties assert, a code identification based on the MIN might not accurately identify the handset making the 9-1-1 call, and the PSAP might thus not be able to identify the handset and call back if disconnected, or might reach a different handset with the same MIN.

17. Some petitioners also reason that the rule would permit fraudulent and prank 9-1-1 calls that may endanger public safety personnel and promote errors and mistakes in rendering emergency services. Others argue that consumers could obtain phones for use in emergencies without subscribing to service or supporting the facilities used for emergency service, which, the carriers

argue, would drive up the price of service for subscribers and reduce revenues. Carriers also raise a further technical concern regarding the Commission requirement that PSAPs be permitted to choose whether they want to receive 9-1-1 calls that have no code identification. Some carriers argue that, in many cases, a switch routes calls to more than one PSAP, and that differentiating between PSAPs that want non-code identified calls and those that do not could require complicated modifications in the switch software.

18. Nextel, an SMR provider, also supports requiring only that service-initialized calls be transmitted. It claims that (1) its digital SMR equipment can only be purchased in connection with SMR service, so the only unauthorized phones would be those stolen or otherwise illegally obtained; (2) handling all code-identified calls, not just service initialized calls, would require major upgrades to the switch and all mobile units; (3) the requirement would competitively disadvantage carriers using iDEN technology developed by Motorola; and (4) fraudulent 9-1-1 calls could not be traced. In its June 4, 1997 ex parte letter, Nextel also requests that the Commission delay the Section 20.18(b) implementation deadline for 9-1-1 availability for one year, citing the complexity of customer education, marketing, and billing. In comments filed on July 28, 1997, Nextel expands this to a request for a two- year delay.

19. On the other hand, public safety organizations and an alliance of consumer groups have opposed these petitions in pleadings filed in the formal reconsideration pleading cycle, supporting the Commission's current rules regarding the 9-1-1 calls that should be transmitted by carriers. The Joint Comments of NENA, APCO, and NASNA indicate that some PSAPs prefer to receive all calls - even if the lack of code identification means that call back is not possible - while others believe non-code-identified calls should not be forwarded. The latter view is based largely on the concern that hoax calls, made by persons intent upon disrupting 9-1-1 service, will increase as it becomes evident to potential perpetrators that PSAPs and wireless carriers are unable to trace calls placed from non-service initialized phones. Alliance argues that the Commission should simply require all carriers to transmit all 9-1-1 calls to the PSAP without blocking, contending that prompt, unconditional connection of all 9-1-1 emergency calls is required by the public interest. Alliance contends that many cellular carriers block emergency calls from non-subscribers and roamers whose carriers do not have roaming agreements.

20. In later ex parte presentations, the Wireless 9-1-1 Coalition presented further information to the Commission regarding the technical aspects of processing 9-1-1 calls. According to the Coalition, wireless switch technology does not offer the choice of forwarding only code identified calls to PSAPs. The only available options are to (1) forward all calls, or (2) forward only service initialized calls that have been successfully validated. On July 16, 1997, the Wireless Telecommunications Bureau requested further information on this issue and requested comments on the information submitted by the Coalition, as well as by Alliance and GTE. Additional comments in response to the July 16 Public Notice generally agree with the Coalition that the Commission's 9-1-1 rules based on "code identification" are not technically feasible at this time. Some commenters argue that the Commission should revise its rules that require covered carriers to transmit non-code identified 9-1-1 calls based on PSAP choice or delay implementation of the rules. Public safety organizations and other commenters, however, urge the Commission not to defer implementation of the E9-1-1 rules or modify its policy goals.

21. The Joint Letter, submitted on September 25, 1997, also proposes that the Commission eliminate the definition of "code identification" and change its rules to distinguish between "all wireless 9-1-1 calls" and "successfully validated wireless 9-1-1 calls." The parties filing the Joint Letter propose that licensees be required to process only successfully validated 9-1-1 calls except in cases in which PSAPs have requested the receipt of all 9-1-1 calls. In addition, the Joint Letter requests that Section 20.18(b) be amended further to reflect that the choice of a PSAP authority to receive all wireless 9-1-1 calls or only successfully validated 9-1-1 wireless calls may not be possible until Phase II location technology is in place. The Joint Letter, however, further requests that the Commission's rules not preclude carriers who choose not to perform validation from passing all wireless 9-1-1 calls.

22. In response to the Joint Letter, Congresswoman Eshoo reiterates her position that "it is in the public's best interest that all wireless 9-1-1 calls should be passed through to the public safety authority." Alliance also filed an ex parte presentation, urging the Commission to deny the proposals made in the Joint Letter. Alliance argues that the Joint Letter's proposed redefinition of terms is "a transparent effort by certain wireless carriers to restore the practice of blocking emergency calls." In addition, because Alliance believes that the Joint Letter suggests that the public safety community is now willing to accept all 9-1-1 calls from carriers who choose to send them, Alliance contends that there is no reason why all carriers should not be required to send all 9-1-1 calls. Alliance thus urges that requiring carriers to process all 9-1-1 calls is the obvious and best solution to end the efforts by the wireless industry to reinstate blocking of emergency calls.

23. Commenters responding to the October 3 Public Notice generally support the proposals made in the Joint Letter. For example, most parties agree with the Joint Letter's proposal to eliminate the distinction based on "code identification" and to differentiate between "successfully validated wireless 9-1-1 calls" and "all wireless 9-1-1 calls." Commenters also generally support the Joint Letter's proposal to defer the PSAP-by-PSAP choice to receive "all wireless 9-1-1 calls" or "only successfully validated 9-1-1 calls" until Phase II location technology is in place.

24. In response to the concern voiced by Congresswoman Eshoo and Alliance that the Joint Letter's proposals are intended to block certain wireless 9-1-1 calls, CTIA and PCIA, in their further comments, state that this is not the intent of the proposed amendment. CTIA, for example, clarifies that carriers and public safety organizations are not suggesting that only validated 9-1-1 calls be completed, to the exclusion of calls from non-initialized phones or calls from subscribers without valid roaming agreements. Rather, according to CTIA, "the proposal attempts to capture more accurately the type of calls that the 9-1-1 authorities may choose from - i.e., all wireless 9-1-1 calls and successfully validated 9-1-1 calls. Sprint PCS also argues that the Joint Letter does not advocate that only successfully validated calls be processed or that carriers should not route all calls. Rather, CTIA and other commenters claim that wireless carriers are prepared to deliver all wireless 9-1-1 calls to a requesting PSAP as long as the Commission recognizes that only calls that have been successfully validated will be transmitted with enhanced features (i.e., call back and location). Noting that the Joint Letter acknowledges that the architecture of certain systems will continue to route all calls, Sprint PCS states that its system is currently structured to pass all calls and provide call back numbers for most of these calls.

2. Discussion

25. Our decision in the E9-1-1 First Report and Order directing wireless carriers to forward all 9-1-1 calls without any user validation from handsets which transmit a code identification was intended to achieve important public safety goals. User validation procedures can be long and cumbersome, sometimes requiring the caller to supply credit card information. The resulting delay in completing a call can be lengthy and errors can occur. Applying these procedures in emergencies could thus cause a dangerous deferral or interruption of the 9-1-1 assistance process and, effectively, the denial of assistance in some cases. This could happen, for example, to subscribers of carriers with whom a servicing carrier does not have a roaming agreement. We also pointed out that the requirement could effectively place 9-1-1 calls beyond the reach of children and others in emergencies who lacked access to the information needed for validation. We concluded that the safety of lives and property in emergency situations should not hinge on whether a person could, for example, supply a valid credit card number.

26. To avoid these delays and impediments, we decided to require wireless service providers to transmit 9-1-1 calls from all handsets that transmit code identifications, such as the MIN code programmed into cellular and PCS handsets. Forwarding calls with a code identification in the signal without validation would, we believed, serve several purposes. First, it would route calls to PSAPs with the minimum amount of delay, in order to permit the most rapid emergency response. Second, it would ensure that virtually all subscribing customers - including roamers - will be able to place and complete 9-1-1 calls expeditiously in emergencies. Finally, the presence of a code identification as a triggering factor might provide PSAPs with some basic information about the calling party, enabling PSAPs, in some cases, to call back the person seeking emergency assistance if the call is disconnected. We specifically rejected proposals to subject 9-1-1 calls to validation in order to screen out calls from non-subscribers, concluding that the potential for delay would seriously compromise the public safety objectives of this proceeding.

27. At the same time, although we found a strong case for forwarding all calls, including those without code identifications, we were concerned that ANI and call back features might not be as usable, and hoax and false alarm calls might be facilitated. Because public safety organizations are in the best position to determine whether acceptance of calls without code identification helps or hinders their efforts, we concluded that the choice of whether all 9-1-1 calls would be transmitted to the PSAP should reside with the public safety administrators. The mechanism we adopted to accomplish this was to require covered carriers to transmit all 9-1-1 calls, including non-code identification calls, if requested by a PSAP.

28. Based upon our review of the record, it now appears that this approach is, at least for the present, unworkable. The E9-1-1 First Report and Order observed that wireless switches currently are technically unable to differentiate between subscribers and non-subscribers without validation procedures. The record on reconsideration, in particular the information submitted in ex parte presentations in June and July 1997, the comments in response to our July 16, 1997 Public Notice, and the Joint Letter, demonstrates, however, that those switches also cannot presently differentiate between code identified and non-code identified handsets without applying those same validation procedures.

29. According to information supplied by wireless industry representatives, wireless switches can either (1) transmit all calls without validation; or (2) transmit only calls from handsets that have

been validated to prove the callers are current customers in good standing, or (in roaming situations) are subject to roaming agreements with a serving carrier. Forwarding only code identification calls without validation is apparently not technically possible at present. Efforts to develop and deploy a screening mechanism for code identified calls that would not cause delay or blockage of 9-1-1 calls, as the validation process does, would apparently be expensive and time consuming, according to this information.

30. The costs, delays, and administrative burdens of requiring wireless carriers to implement the "PSAP choice" approach taken in the E9-1-1 First Report and Order might also be substantial. A single wireless switch may serve areas with numerous PSAPs in different state and local jurisdictions with different procedures and approaches. While it may be possible to segment the switch to reflect PSAP choices, this appears to require complicated and expensive modifications to the software that could not be implemented for some time. Alternatively, a rule that required all PSAPs in an area to reach a consensus could be problematic to administer, especially in light of the varying switch coverage areas of the several competing wireless carriers. In sum, the problems presented by requiring wireless carriers to implement code identification screening based upon PSAP choices at present appear substantial.

31. At the same time, we recognize that there are certain limitations on the benefits of code identification screening to PSAPs. The fact that a handset is code-identified does not mean its user may be reliably called back in the event of disconnection. For some technologies, the MIN code is not a dialable number and the handset can be reached only if it is in service. Even if the code is a dialable number, that number might not permit call back or deter prank calls or false alarms. Lost, stolen, and cloned phones may transmit valid codes. Codes from handsets whose owners no longer maintain service may be reissued, so that the transmitted code may be ambiguous, duplicating the in-service code of another handset. For these categories of code identified handsets, PSAPs may be unable to call back reliably if disconnected, or to prevent or trace prank or false alarm calls. Moreover, the goal of deterring prank and false alarm calls and apprehending the callers is likely to be better served by the scheduled deployment of more accurate caller location information pursuant to the Phase II requirements established in the E9-1-1 First Report and Order. This technology will provide information on the location of handsets being used to make prank or false alarm calls.

32. In addition, from a caller's perspective, the distinction between code identified and non-code identified handsets would be difficult to explain and understand, as would the fact that this distinction would be crucial to completing 9-1-1 calls in some locations, but meaningless in others, depending on PSAP choice. In some cases, call completion could also depend on the vagaries of radio transmission and network management, because wireless calls are not necessarily received by the nearest cell site. A call from a non-code identified handset might be routed to a PSAP that would accept it one day, and to another that would decline to receive it the next. The end result

could be unnecessary consumer confusion about wireless 9-1-1 service and added risks that help will not arrive promptly, if at all, in response to an emergency call.

33. Based upon this record, it appears that the technically feasible and most practical options are to forward either all 9-1-1 calls, or only those that have been validated. This is in fact the position of many in the wireless industry. Given this choice, we find that the public interest would clearly be better served by requiring covered carriers to forward all 9-1-1 calls. As we noted in the E9-1-1 First Report and Order, one of the Commission's statutory mandates under the Communications Act is "promoting safety of life and property through the use of wire and radio communication."

34. We have already discussed many of the reasons why the validation process would unnecessarily delay or defeat the dispatch of help in emergencies, here and in the E9-1-1 First Report and Order. Roamers whose home carrier happened not to have a service agreement with a carrier in whose service area the call is placed would be most obviously affected. Applying the validation process to this important class of customers would, at a minimum, delay delivery of emergency 9-1-1 calls and, in some cases, block them. In addition, we are not persuaded by arguments that only current validated customers, including roamers with a roaming agreement, should be allowed to complete wireless 9-1-1 calls. We continue to believe that the public safety will be promoted more effectively if all potential 9-1-1 calls are passed through to the PSAP regardless of whether they are made by subscribers. Many wireless 9-1-1 calls are from "Good Samaritans" reporting traffic accidents and similar emergencies. Making it easier for individuals to report such emergencies thus primarily benefits the public and serves the public interest, not simply the interests of the caller.

35. The fact that many wireless carriers currently transmit all 9-1-1 calls without validation undercuts arguments that customers would no longer purchase service because they could reach 9-1-1 operators without subscribing to any wireless service. Certainly customers value many capabilities of wireless telephony besides the ability to dial 9-1-1 in an emergency. The suggestion that consumers who might use non-service initialized phones may drive up the price of service for customers is also doubtful. Emergency calls are a small fraction of total traffic. In addition, the costs of wireless E9-1-1 may be recovered in various ways, subject to state and local programs. We also remain unconvinced that a requirement that emergency calls be transmitted imposes an unfair regulatory burden on wireless carriers as compared to wireline carriers. Overall, we conclude that the clear, concrete benefits of continuing to make it easy and quick to call for help in an emergency outweigh what appear to be largely speculative disadvantages and concerns. We also believe that the current praiseworthy practice of many wireless carriers, who already forward all 9-1-1 calls, should be endorsed and not eroded.

36. The Joint Letter proposes rule changes to recognize that particular public safety authorities may not be able to choose on an individual basis the types of calls they receive, for example where a carrier's switch serves multiple PSAPs, until Phase II location technology is in place. It is unclear what costs would be incurred in implementing PSAP choice even under Phase II or how effective it would be. The parties to the Joint Letter agree that, even under Phase II, calls may be identified with an inappropriate PSAP. Under these circumstances, we believe it is at best premature to impose the obligation of implementing PSAP choice on the carriers. While there may be some benefit to requiring that wireless carriers screen and block calls on behalf of the PSAPs, in order to

deter and prevent hoax 9-1-1 calls, the extent of the benefits and the costs that would be incurred are uncertain. Rather than imposing this requirement on the wireless carriers on the current record, we find it preferable to simply require carriers to transmit all 9-1-1 calls to the appropriate PSAPs.

37. We also are not convinced that requiring wireless carriers to forward all 9-1-1 calls precludes PSAP efforts to implement call back and guard against fraudulent 9-1-1 calls. Our rules apply to wireless carriers, not PSAPs, which can administer their own operations and decide how to manage incoming calls. PSAPs should, for example, receive call information that will allow them to screen out or identify many types of fraudulent calls or those where call back is not possible. Also, there is a dispute in the record concerning whether call back can be achieved for handsets that are not service initialized through the use of the "Follow-Me-Roaming" process, which, if proven to be the case, might mitigate some concerns within the public safety community.

38. The option suggested by CTIA of allowing validation where it can be done without a call processing delay does not appear to be feasible for existing equipment, as the Commission pointed out in the E9-1-1 First Report and Order and parties such as SBMS and the Wireless Coalition affirm in their comments and other submissions. Even if it were feasible, the public safety would be better served by ensuring that all 9-1-1 calls are passed through promptly to the PSAP regardless of whether the caller is a subscriber. Moreover, CTIA itself no longer appears to support this approach. In the Joint Letter that it signed and in its further comments, CTIA supports transmitting all calls to the PSAP, if the PSAP so chooses. While we would not lightly dismiss proposals that present an effective way to screen 9-1-1 calls and better meet the wishes of PSAPs, we would also want to be assured that the end result would improve public safety for all users, not just subscribers.

39. A requirement that covered carriers transmit all 9-1-1 calls also should be feasible for covered SMR services provided by carriers such as Nextel. The transmission of all calls should not require the major switch upgrades Nextel claims would be needed to implement code identification screening or PSAP choice. It should also not disadvantage any particular technology. As we discuss below, this does not mean that 9-1-1 calls from handsets that have never been placed in service will be transmitted, but customers who purchase an SMR handset and service, but later discontinue service, will be able to dial 9-1-1 and reach a PSAP in an emergency.

40. We deny Nextel's request to delay further the implementation deadline for Section 20.18(b) requirements to transmit 9-1-1 calls to PSAPs. Many carriers already transmit all 9-1-1 calls to PSAPs. Moreover, in response to questions from Commission staff, wireless carriers generally agreed that no delay is necessary for the 9-1-1 availability requirements. We thus find no need or justification for a further delay in the basic 9-1-1 implementation deadline. In the case of some SMR technologies, we note that the carrier does not recognize the handset until it has been programmed with a code at the time service is started. For these technologies, we clarify that we consider handsets that have not been placed in service to be incompatible with the carrier's air interface protocol - such handsets thus are not subject to 9-1-1 requirements until they are programmed with a code. Otherwise the same obligations would apply. Thus, if the carrier has the ability to recognize a 9-1-1 call, the carrier is obligated to forward the call to the designated PSAP. For example, in the case of these SMR technologies, if a handset is placed in service and

programmed with a code, the carrier would be obligated to transfer 9-1-1 calls from the handset even if it is no longer subscribed for service.

41. We also clarify, in response to a request by TIA, that we do not bar validation procedures that provide information to the PSAP, such as database lookups to associate a telephone directory number with a particular handset code identification, provided these procedures do not prevent or delay call completion. In addition, because the definitions of "code identification" and "mobile identification number" are no longer relevant, we are deleting them from our rules. This action moots concerns raised by TIA about these definitions. Further, we clarify that switch functions that do not block or delay any 9-1-1 calls are not considered to be validation functions for purposes of 9-1-1 and E9-1-1 implementation.

B. TTY Access to 9-1-1 Services

1. Background, Petitions and Further Pleadings

42. In the E9-1-1 First Report and Order, the Commission adopted rules requiring that, no later than 12 months after the effective date of the rules (i.e., October 1, 1997), covered carriers "must be capable of transmitting 9-1-1 calls from individuals with speech or hearing disabilities through means other than mobile radio handsets, e.g., through the use of Text Telephone Devices." TTYs or TDDs are keyboard-like devices used by people with speech disabilities or hearing disabilities, or both, to communicate by telephone. Title II of the Americans with Disabilities Act (ADA) requires non-discriminatory access to state and local government services, such as 9-1-1, for people with hearing or speech disabilities. Pursuant to the ADA requirements, telephone emergency services, including 9-1-1 services, are required to provide direct access to individuals who use TDDs and computer modems, without relying on outside relay services or third party services.

43. Although the Commission mandated that TTY users should also benefit from E9-1-1 features, including ALI and ANI capabilities, the Commission stated in the E9-1-1 First Report and Order that it would be prudent for the wireless industry, equipment manufacturers, PSAPs, and the disability community to determine the extent of issues pertaining to the provision of these E9-1-1 features for TTY calls and whether these issues might be resolved by agreements between the interested parties or by standards bodies. The Commission also required that each of the signatories to the Consensus Agreement, the Personal Communications Industry Association (PCIA), and Telecommunications for the Deaf, Inc. (TDI) shall report to us jointly within one year after the effective date of the rules (i.e., by October 1, 1997) regarding the status of the issues related to E9-1-1 features for TTY calls. The Commission indicated that it might initiate a further proceeding after additional information is obtained.

44. Pursuant to mandates of the Telecommunications Act of 1996, the Commission is currently working on separate rulemaking proceedings to promote broad availability of telecommunications services for people with hearing and speech disabilities. For example, the Commission issued a Notice of Inquiry to implement Section 255 of the Communications Act, as added by the Telecommunications Act of 1996. Section 255 requires manufacturers of telecommunications equipment or providers of telecommunications services to ensure that their equipment or services are accessible and usable by individuals with disabilities, if readily achievable. In addition, under

Section 225 of the Communications Act, the Commission is required to make Telecommunications Relay Services (TRS) available and, inter alia, assure that the use of existing technology does not discourage or impair the development of improved technology.

45. In their petitions for reconsideration, Omnipoint, PCIA, and TIA contend that the Commission should reconsider the TTY access requirements for digital mobile radio systems, because digital systems may not be compatible with TTY devices. While all parties uniformly support 9-1-1 access from TTY devices and agree that current devices are compatible with analog cellular technology, these petitioners claim that TTY compatibility with digital devices cannot be guaranteed and may not be achievable by the October 1, 1997 deadline established in the E9-1-1 First Report and Order.

46. Omnipoint, for example, requests that the Commission modify its rule to reflect that carriers can satisfy their obligations through so-called "short- messaging service," and through analog TTY when reasonably feasible. PCIA argues that 9-1-1 access for TTYs should not be mandated until industry standards bodies have resolved certain technical issues, contending that two complex technical issues will not be resolved by the implementation date of the TTY access requirement: (1) the ability of digital wireless systems to transmit 300 baud modem tones required by older TTYs; and (2) the promulgation of different standards for digital and analog TTY devices because digital networks, unlike analog networks, distinguish between voice and data transmissions in order to implement such features as error detection and correction.

47. In addition, TIA argues that modification of digital wireless systems to achieve a usable interface with TTY devices is not "readily achievable" within the meaning of Section 255 and would not encourage the development of improved technology, within the meaning of Section 225. Thus, TIA urges the Commission to provide flexibility in its regulations to implement TTY and digital wireless E9-1-1 compatibility through the use of functional equivalents and to defer TTY compatibility requirements until after standards have been developed and a reasonable implementation time frame can be discerned. Motorola agrees that the one-year time limit is not workable because standards must be developed and basic technical questions must be addressed.

48. On the other hand, in their initial reply comments, the public safety community as well as the disability community urge the Commission to maintain the current TTY access requirements, contending that covered carriers have been on notice for more than two years of the possibility that the Commission would prescribe this rule, since the E9-1-1 Notice was issued in 1994. Joint Commenters and TX- ACSEC contend that Omnipoint's proposed modification of the TTY requirement leaves too much to the discretion of the carriers. NAD, representing people with hearing disabilities, urges that the Commission should not modify the TTY compatibility requirement. CAN, a consumer group representing the disability community, also urges the Commission to encourage the industry to work quickly to resolve any outstanding technical issues, rather than allow the industry more time. Recognizing the importance of the availability of 9-1-1 service in an emergency, CAN contends that "E9-1-1 service through wireless services for hearing callers will improve safety for hearing callers. Deaf and hard of hearing callers deserve no less."

49. After the reconsideration petition comment cycle closed, in an ex parte filing dated June 4, 1997, and in a formal petition dated August 27, 1997, the Coalition requested an extension of the

E9-1-1/TTY compatibility deadline of at least 18 months for digital systems. In the filing, they assert that ensuring compatibility for all digital wireless systems will be impossible by October 1, 1997. The ability of wireless operators to meet the E9-1-1/TTY compatibility requirement, they contend, is predicated on intensive and cooperative work by wireless device manufacturers, TTY manufacturers, and standards organizations. Further, according to the petitioners, although a number of projects are currently ongoing and a great deal has been accomplished, significant work remains to be done, including more research, coordinated efforts among manufacturers, resolution of standards and technical issues, and time to translate test results into recommendations for product changes and development. In response to the Coalition's request for extension, Nextel filed a motion in support of this request, stating that the wireless industry believes the appropriate system modifications are achievable, but cannot be accomplished by October 1, 1997.

50. On September 16, 1997, NAD and CAN jointly filed their Opposition to the Coalition's Request for extension. In the Opposition, NAD and CAN claim that the Coalition's arguments cannot withstand scrutiny and do not provide sufficient justification for noncompliance with the deadline. NAD and CAN urge the Commission not to dismiss the industry's failure to meet its compliance deadline lightly, contending that the industry has been aware of the TTY compatibility requirement since 1994. Accordingly, NAD and CAN propose that the industry be granted a maximum of nine additional months, until July 1, 1998, to achieve compliance with the Commission's TTY compatibility requirement for wireless digital systems. In addition, they request the Commission to direct the Coalition to submit reports every three months to the Commission, setting forth the research conducted and specific efforts undertaken to achieve E9-1-1/TTY wireless compatibility. Finally, NAD and CAN urge the Commission to use available enforcement mechanisms, including fines, to ensure compliance with the E9-1-1 rules at the conclusion of the nine month extension.

51. The September 25, 1997 Joint Letter urges the Commission to extend the TTY implementation deadline for digital wireless systems for 18 months, until April 1, 1999. Parties to the Joint Letter contend that, although solutions are being developed to address the interface issues of digital networks, an extension of time of 18 months is needed to accomplish implementation. After the implementation of Section 20.18(c) was temporarily stayed until November 30, 1997, the October 3 Public Notice sought further comment on the Joint Letter's proposal to extend the TTY implementation date for 18 months. Commenters responding to the October 3 Public Notice support the proposal made in the Joint Letter regarding this issue, arguing that substantial work remains before digital wireless systems can be made available to TTY users. However, TruePosition contends that it would disserve the public interest to delay wireless E9-1-1 implementation for consumers not using TTY wireless devices or for consumers using TTY devices in an analog environment. Similarly, in its Joint Reply Comments, the public safety community clarifies that its intention in the Joint Letter was only to delay implementation of TTY requirements for digital wireless systems, not analog systems.

52. Based on the progress of the TTY Forum - which included participation by wireless industry groups, equipment manufacturers, and consumer groups representing individuals with hearing and speech disabilities - the November 20, 1997 TTY Consensus Agreement proposes a 15- month extension for TTY compatibility requirements for wireless digital systems until January 1, 1999. In

the TTY Consensus Agreement, the parties agree that a 15-month extension will provide the Working Group of the TTY Forum with the time they require to develop and implement an effective work plan to deliver 9-1-1 services over digital wireless systems for TTY users. The parties also suggest that an additional 3-month extension would be appropriate if the TTY Forum determines that it cannot complete the work plan by January 1, 1999, due to unresolved technical issues. Moreover, the parties to the TTY Consensus Agreement propose to submit to the Chief of the Wireless Telecommunications Bureau a brief status report describing the progress of the TTY Forum every four months.

2. Discussion

a. TTY Compatibility with Digital Wireless Systems

53. E9-1-1 compatibility with TTY is a critical public safety need. We agree with CAN that people with hearing and speech disabilities who rely on TTYs to communicate are entitled to the same rapid and efficient access to help in emergencies as other Americans. Indeed, Title II of the ADA requires non-discriminatory access to state and local government services, such as 9-1-1, for people with speech and hearing disabilities. We note that the large majority of wireless phones currently use analog technology, and, as noted above, such phones are compatible with TTYs. We also note, however, that digital phones offer additional choices and features which should be available to TTY users. Furthermore, we note that manufacturers and service providers are increasingly using digital technology. We believe that this number will continue to increase significantly over the next few years. Thus, any delay in TTY compatibility for digital handsets and systems prevents people with hearing and speech disabilities from participating in the benefits of digital technology, and delay in assured TTY access to 9-1-1 also diminishes their safety in emergencies, as well as the safety of others for whom they might seek help.

54. Because the Commission had not completed its review of pending petitions for reconsideration and of a number of late ex parte filings regarding the TTY compatibility issues, the implementation deadline for the Section 20.18(c) TTY compatibility requirement was temporarily stayed from October 1, 1997 until November 30, 1997. We are reluctant, however, to grant any additional extension of time for E9-1-1/TTY compatibility. We are particularly reluctant in view of the disappointing failure of the wireless industry to achieve compatibility for digital systems to date. The Commission adopted the Wireless E9-1-1 Notice in September 1994. As representatives of the disability community point out, wireless carriers have had substantial notice and time, approximately three years, to meet the October 1, 1997 deadline. The wireless industry also offers little in the way of convincing justification for their failure to meet the deadline. A principal explanation offered by the Coalition in their request for additional time of at least 18 months is that there were "competing demands" upon the relevant personnel. While the parties argue that they need more time to comply with the TTY requirement, we note that the TTY requirement proposal in the E9-1-1 Notice was based on the Joint Paper, filed by PCIA, APCO, NENA, and NASNA. In addition, as we stated in the E9-1-1 First Report and Order, the parties to the Consensus Agreement agreed to meet the Commission's proposed TTY compatibility requirement.

55. The record, however, clearly indicates that it is currently not possible to provide digital wireless services to TTY users. Consumer organizations representing individuals who are deaf and

individuals with hearing and speech disabilities - NAD, CAN, TDI, and Gallaudet University - acknowledge that additional time is required to implement wireless digital solutions for TTY users. Despite our reluctance to delay the implementation deadline for TTY compatibility requirements, we agree with parties that the Commission must also recognize the present existence of technical barriers. We will therefore grant an extension of the deadline for digital wireless systems, subject to conditions that will ensure that the delay in TTY compatibility is as brief as possible.

56. The record reflects that, while it is currently feasible to transmit TTY calls through wireless analog systems, digital handsets and systems require different technical solutions. Digital wireless systems use vocoders that represent a mathematical model of the human vocal tract to efficiently reproduce the speech it produces. TTY signaling tones, in contrast, are not sounds typically produced by the vocal tract and vocoders may not reproduce them well. Industry standards bodies have been studying TTY compatibility issues, but to date have not established standards for interfaces between TTY and digital systems. Omnipoint, for example, states in its petition that, while limited testing has shown that successful analog TTY communications are possible with the 13 kb/s "full rate" speech vocoder used in the PCS-1900 digital standard, the sub-8 kb/s vocoder used in IS-661 technology is currently unable to transmit TTY modem tones successfully.

57. Parties also contend that, while progress was made at the CTIA Forum on TTY compatibility issues, substantial work remains to be done before digital services can be made available to TTY users, and certainly before such service can be consistently error-free, standardized, and ubiquitous. The parties to the TTY Consensus Agreement, for example, suggest that a 15-month extension is necessary to allow the Working Group of the TTY Forum sufficient time to develop and implement an effective work plan to deliver 9-1-1 services over digital wireless systems for TTY users. Therefore, we determine that the record supports establishment of separate implementation dates for analog and digital systems, and that delay in the implementation date for digital systems is necessary.

58. Accordingly, we modify the Section 20.18(c) implementation deadlines for analog wireless systems and digital wireless systems. For analog systems, the implementation deadline for Section 20.18(c) would be December 1, 1997, the expiration of the stay of that rule. Although we recognize that an additional delay period is necessary for digital wireless systems, we believe the 15-month extension proposal contained in the TTY Consensus Agreement is excessive. We also do not believe that an additional 3-month extension until April 1, 1999 is necessary and do not believe it would be appropriate to leave the decision whether to grant an additional extension to the TTY Forum. Any unnecessary or premature delay in TTY compatibility with 9-1-1 impairs the public health and safety and runs counter to the policies of the ADA. Some comments also suggest that digital compatibility problems may be less serious than was originally feared. We reiterate that the wireless industry and other interested parties must give TTY compatibility the priority that the law demands.

59. We will, therefore, temporarily suspend enforcement of the TTY requirement for 12 months until October 1, 1998, but only for digital systems and subject to conditions that protect consumers, encourage compliance, and ensure minimal delay. Specifically, we require that (1) carriers whose systems are not compatible with TTY calls must notify current and potential subscribers, as we discuss below, and (2) quarterly progress reports on efforts and achievements in

E9-1-1-TTY compatibility, including efforts made to implement the notification requirement, be filed with the Commission by the parties to the TTY Consensus Agreement. We believe that this extra time will allow the wireless industry - working with organizations representing individuals with hearing and speech disabilities - to overcome technical barriers and compatibility problems involved in implementing solutions for TTY users on digital wireless systems. We also delegate to the Wireless Telecommunications Bureau the authority to grant an additional 3-month extension until January 1, 1999, upon reviewing the quarterly status reports on TTY compatibility with digital systems filed by the parties to the TTY Consensus Agreement, as we discuss below.

b. Notification Requirement

60. Carriers whose systems are not compatible with TTY calls must make every reasonable effort to notify current and potential subscribers that they will not be able to use TTYs to call 9-1-1 with digital wireless devices and services. The Commission is concerned that the delay in finding a compatibility solution for digital wireless services and TTYs could result in people unknowingly purchasing wireless handsets and subscribing to services that are incapable of transmitting TTY tones accurately. Such incompatibility would delay or prevent the dispatch of help to TTY users in an emergency. Consumers might also believe that the Commission's original TTY compatibility deadline remains in effect for all wireless phones and services, including digital systems.

61. To help ensure that the delay in solving the TTY compatibility problem does not mislead or otherwise create problems for TTY users, we encourage carriers to work together with manufacturers, retailers, public safety officials, and representatives of TTY users to make every reasonable effort to notify current and potential subscribers of this compatibility problem until it is solved. This notification could be accomplished, for example, with inserts in billing statements, newsletters, notification stickers on handsets, disclosures in service agreements, user manuals, or other means designed to inform current and potential subscribers of the inability to use TTYs to call 9-1-1 with digital devices.

c. Reporting Requirements

62. As we mentioned above, the Commission required each of the signatories to the Consensus Agreement, PCIA, and TDI to report to us jointly by October 1, 1997, regarding the status of the issues related to E9-1-1 features for TTY calls. After the implementation deadline was stayed until November 30, 1997, however, CTIA requested an extension of time to file the Joint Status Report on TTY issues, contending that the parties need to take into consideration the additional 60 days allowed for implementation and to evaluate the effectiveness of TTY implementation. We now grant the extension requested by CTIA and require the reporting parties to file the Joint Status Report by December 30, 1997.

63. The Coalition, in requesting an extension of the October 1, 1997 deadline, also pledged that the wireless industry would provide periodic status updates on progress in TTY compatibility. In addition, the TTY Consensus Agreement proposes to submit a status report on the progress of the TTY Forum every four months. To monitor the progress of these efforts and help encourage and ensure progress, we will require that the progress reports be made as a condition for the suspension of enforcement of the TTY requirement for wireless digital systems. These progress reports should

be filed by the parties to the TTY Consensus Agreement in this docket at least quarterly, within 10 days after the end of the quarter beginning January 1, 1998, until the quarter ending September 30, 1998. For the first quarter, January-March, 1998, this progress report should be filed no later than April 10, 1998.

64. The quarterly status report should include, but not be limited to, information regarding the problems associated with TTY access through digital wireless systems, proposed technical solutions, and steps taken to achieve the proposed technical solutions. In addition, as part of the quarterly status report, the parties to the TTY Consensus Agreement will be required to report generally on the steps taken to notify current and potential subscribers that TTYs cannot be used to call 9-1-1 over digital wireless systems. Such information should be sufficiently detailed to allow the Commission to assess whether sufficient progress is being made. Based on these quarterly status reports, the Wireless Telecommunications Bureau, under delegated authority, may extend the suspension of enforcement of Section 20.18(c) for an additional three months, until January 1, 1999, if necessary. We note that the disability community has agreed to support the efforts of the TTY Forum by providing representatives with appropriate technical expertise to the Working Group. We strongly urge the industry to include the disability community in the process of making E9-1-1 compatible with TTY for digital service.

d. Short Message Service

65. We deny portions of the Omnipoint and TIA petitions requesting that the Commission allow digital system providers to comply with the 9-1-1 access rules through a "short-messaging service" or data services compliant with international standards. Omnipoint and TIA argue that a written short messaging service (SMS), such as a direct teletext service through the mobile unit's display and keypad, would be the best alternative to the transmission of TTY signals through a digital vocoder system, because PCS-1900 phones currently permit a written message to be prepared using the keypad on the handset. TIA also claims that direct teletext service would provide maximum benefits to the end user (i.e., reliable TTY communications) without requiring a stand-alone TTY unit in addition to the mobile phone. Therefore, TIA urges the Commission to provide flexibility in requiring TTY and digital wireless E9-1-1 compatibility through the use of this "functional equivalent."

66. The disability community, however, contends that the use of handset keypad-originated text messages is not an appropriate alternative. CAN, for example, argues that in an emergency situation, very few callers would be able to maintain the level of concentration needed to complete a call by pressing certain keys a specified number of times to create a letter, which is the conventional method for transmitting a short message service. Moreover, the record indicates that using the SMS and data advanced capacity of PCS-1900 networks to communicate with a PSAP would not currently offer a significant end user benefit because few PSAPs are configured to accept SMS directly and not all PSAPs can accept ASCII type TTY calls and other types of data calls. Omnipoint concedes that, while it believes SMS may be useful eventually and should be promoted as a method of transmitting emergency calls by people with hearing and speech disabilities, its effectiveness requires PSAPs to be suitably equipped for SMS communications. Until this upgrade occurs, people with hearing or speech disabilities cannot rely on SMS in emergency situations.

67. We also note that under Department of Justice regulations, all PSAPs are currently required to be equipped with minimal capability for receiving Baudot format TTY calls. Thus, a public entity would not be required to provide direct access to computer modems and other data services using formats other than Baudot, until it can be technically proven that communications in another format can operate in a reliable and compatible manner in a given telephone emergency environment. Accordingly, we agree with CAN that the use of handset keypad-originated text messaging, as suggested by Omnipoint and TIA, is not an appropriate or practical alternative for hearing and speech-impaired persons in an emergency.

e. E9-1-1 Requirements for TTY Calls

68. Although Section 20.18(d) and Section 20.18(e) clearly require covered carriers to provide Phase I and Phase II features of E9-1-1 for all 9-1-1 calls, including TTY calls, the text of the E9-1-1 First Report and Order suggests that implementation of these features for TTY might be further explored and negotiated by the parties. We therefore clarify our intention in order to encourage rapid implementation of the TTY access requirement.

69. When we required each of the signatories to the Consensus Agreement, as well as PCIA and TDI, to report to us by the implementation date of the TTY access rules (October 1, 1997), our intention was to assess the status of issues related to E9-1-1 features for TTY calls, not to defer the implementation of E9-1-1. As we stated in the E9-1-1 First Report and Order, we may initiate a further proceeding after reviewing this report. This possibility of a further proceeding does not, however, affect the current TTY rules. Moreover, the record indicates that TTY transmissions occur over a voice channel only, and that currently available automatic location technology would not be affected by the technical concerns related to TTY transmissions over digital wireless systems. TruePosition, for example, contends that there is no reason to delay the Phase II deadlines based on the technical difficulties associated with TTY requirements, because its location system utilizes the reverse control signal emanating from a wireless phone, which is separate from the voice channel signal. Therefore, the implementation of the Phase I and Phase II E9-1-1 requirements for TTY calls should conform to our rules, as scheduled. For the reasons discussed above, we do, however, defer the Phase I requirements for TTY calls through digital systems until October 1, 1998.

C. Applicability of Rules

1. Definition of Covered SMR Services

a. Background and Petitions

70. In the E9-1-1 First Report and Order, the Commission applied the 9-1-1 and E9-1-1 rules to cellular, broadband PCS carriers, and "covered SMRs." We defined "covered SMRs" as those SMRs that hold geographic area licenses or have obtained extended implementation authorizations in the 800 MHz or 900 MHz service, either by waiver or under Section 90.629 of the Rules. In addition, the term "covered SMR" includes only licensees that offer real-time, two-way switched voice service that is interconnected with the public switched network, either on a stand-alone basis or packaged with other telecommunications services. Thus, we stated that local SMR licensees offering mainly dispatch services to specialized customers, as well as licensees offering data, one-

way, or stored voice services on an interconnected basis, would not be governed by these E9-1-1 requirements. The intent was to extend the 9-1-1 requirements that apply to cellular and broadband PCS carriers to those SMRs that compete with them in providing mobile telephone service to the general public, but not to traditional dispatch services.

71. In their petitions, a number of parties contend that the definition of "covered SMR" adopted in the E9-1-1 First Report and Order is overinclusive. Specifically, these parties argue that some SMR licensees that offer mostly dispatch services inappropriately come within the covered SMR definition by virtue of the fact that they provide limited interconnection capability to their dispatch customers. Contending that a more narrowly tailored definition is required to achieve the Commission's intention to exclude all traditional local SMRs, these petitioners ask the Commission to define "covered SMR" either based on the use of a "mobile telephone switching facility," or based on the number of subscribers nationwide. AMTA and Nextel, for example, propose that the term, "covered SMR," encompass only those SMR systems that "offer consumers two-way voice services using a mobile telephone switching facility." PCIA proposes that the definition of "covered SMRs" depend on the number of mobile units served. AMTA also alternatively proposes that the term "covered SMR" apply only to "systems serving 20,000 or more subscribers nationwide."

72. On December 16, 1996, AMTA filed a Petition for Declaratory Ruling concerning the definition of "covered SMR" in this and three other Commission proceedings. In its Petition, AMTA proposes a revised definition of "covered SMRs" in this proceeding as "geographic area SMR services in the 800 MHz and 900 MHz bands (included in Part 90, Subpart S of this chapter) that offer real-time, two-way interconnected voice service using multiple base stations and an intelligent in-network switching facility that permits automatic, seamless interconnected call handoff among base stations, and Incumbent Wide Area SMR licensees."

73. In an ex parte filing dated April 14, 1997, Geotek proposes an alternative for SMR licensees operating in a group dispatch-style configuration. Geotek claims that application of the E9-1-1 rules to SMR carriers providing traditional dispatch services to the regulatory requirements adopted in the E9-1-1 First Report and Order, with interconnection as an ancillary feature, may be counterproductive and lead to results adverse to the Commission's intentions. Under Geotek's proposed alternative rule, a covered carrier offering dispatch-style services must notify its customers that vehicles with interconnected service within the customer's fleet may not have capability to reach an appropriate PSAP by dialing 9-1-1. The covered carrier would be required to specify in its notice to customers that it is the responsibility of the customer, presumably through its dispatcher, to process requests for emergency assistance from vehicles within the fleet, as well as to make the vehicle operators aware on a regular basis of the need to contact the dispatcher rather than dial 9-1-1. Further, Geotek proposes that covered carriers provide the customer with labels to be affixed to the vehicle radios that instruct the operators to contact their dispatcher directly in an emergency. Nextel, in an ex parte filing dated June 4, 1997, supports Geotek's claim that the Commission should allow fleet dispatch users to rely on their dispatcher for emergency situations.

74. In their ex parte filings, Geotek and Nextel argue that a dispatcher remains the natural point of contact in an emergency in traditional dispatch-style operations with limited interconnection

capability, because the dispatcher has far better information regarding a mobile unit's exact location and is in almost constant contact with the fleet. Geotek and Nextel also note that in a dispatch system that provides interconnection, it is not guaranteed that a customer's 9-1-1 call would be connected to the nearest or most appropriate PSAP given the locational limitations of the single base station. They argue that even if an interconnected customer can reach the PSAP by calling 9-1-1, the call may not be routed to the nearest or most appropriate PSAP because traditional dispatch operations typically use a single high power cell site that may cover a radius of as much as 25 miles. Thus, they contend that, while it may be "possible" to provide PSAPs with the system's base station location, such information is of no practical value to determining the caller's location.

b. Discussion

75. In the E9-1-1 First Report and Order, we concluded that cellular and broadband PCS carriers should be subject to 9-1-1 and E9-1-1 requirements because customers, many of whom purchase cellular and PCS telephone equipment primarily for safety and security reasons, expect such service. We also concluded that those SMR providers that have the potential to offer near-term direct competition to cellular and PCS systems also should be subject to the E9-1-1 requirements. We determined that a distinction was warranted between SMR providers that will compete directly with cellular and PCS providers, and SMR providers that offer mainly dispatch services in a localized non-cellular system configuration. We therefore adopted the "covered SMR" definition in an attempt to exclude the latter category of SMR providers from our E9-1-1 requirements.

76. On reconsideration, we agree with petitioners that the "covered SMR" definition adopted in the E9-1-1 First Report and Order is overinclusive with respect to certain types of SMR systems. In addition, we conclude that the concept of applying E9-1-1 requirements only to certain categories of "covered" carriers should be extended to cellular and broadband PCS. The current rule requires all geographic area or wide-area SMR licensees to comply with the E9-1-1 requirements if they provide two-way real time interconnected voice service. As petitioners point out, however, this brings within the "covered SMR" definition any SMR provider with a geographic or wide-area license that provides any form of interconnected two-way voice service. Thus, SMR providers that primarily offer traditional dispatch services but also offer limited interconnection capability are potentially subject to E9-1-1 requirements under the current rules. We believe that this is inconsistent with our determination that only SMR providers who compete directly with cellular and PCS should be subject to E9-1-1 requirements.

77. We also note that traditional dispatch providers with limited interconnection capabilities, such as those described by Geotek in its ex parte filing, would have to overcome significant and potentially costly obstacles to provide 9-1-1 access. First, "non-cellular" dispatch systems typically have a limited number of interconnected lines and do not necessarily have the capability to accommodate PSAP routing. Further, interconnected SMR users or dispatch systems are often not assigned individual telephone numbers and must share phone lines with other customers, creating the risk of getting a busy signal on an interconnected call, including a 9-1-1 call. Even if the call reaches the PSAP via 9-1-1, selective routing to the appropriate PSAP is complicated by the fact that most dispatch-oriented systems use single, high-power sites, so that routing a 9-1-1

call to the system's base station may not guarantee connection to the nearest or most appropriate PSAP.

78. For the foregoing reasons, we conclude that the ``covered SMR" definition should be narrowed to include only those systems that will directly compete with cellular and PCS in providing comparable public mobile interconnected service. We agree, as several petitioners suggest, that the best indicator of an SMR provider's ability to compete with cellular and broadband PCS providers in this respect is whether the provider's system has ``in-network" switching capability. This switching capability allows an SMR provider to hand off calls seamlessly without manual subscriber intervention. In-network switching facilities also accommodate the reuse of frequencies in different portions of the same service area. Frequency reuse enables the SMR provider to offer interconnected service to a larger group of customers, which enables the provider to compete directly with cellular and PCS. We therefore adopt these criteria as the basis for our definition of ``covered" service.

79. In adopting this definition of ``covered" service, we note that some ``covered" SMR providers that utilize in-network switching and provide seamless handoff may also provide their customers with dispatch capability. We agree with Geotek and Nextel that in such instances, customers' emergency needs may be as well served by the dispatcher as by providing 9-1-1 dialing access. We therefore conclude that ``covered" SMR systems that offer dispatch services to customers may meet their E9-1-1 obligations to their dispatch customers either by providing customers with direct capability for E9-1-1 purposes, or alternatively, by routing dispatch customer emergency calls through a dispatcher.

80. A covered carrier who chooses the latter alternative for its dispatch customers must make every reasonable effort to explicitly notify current and potential dispatch customers and their users that they will not be able to directly reach a PSAP by calling 9-1-1 and that, in the event of an emergency, the dispatcher should be contacted. This notification could be accomplished, for example, with an insert in billing statements, newsletters, notification stickers on handsets, disclosure in service agreements, user manuals, or other means designed to inform current and potential subscribers of the inability to directly call 9-1-1 with SMR systems that offer dispatch services.

81. We also conclude that cellular and broadband PCS should be treated consistently with SMR providers to the extent they do not provide in-network switched mobile telephone services. The likelihood that some providers may seek to provide other services over cellular or broadband PCS spectrum is heightened by our recent rule changes which allow the partitioning and disaggregation of spectrum. We believe that all broadband Commercial Mobile Radio Service (CMRS) licensees providing primarily dispatch service should be excluded from the E9-1-1 requirements regardless of whether SMR, PCS, or cellular spectrum is used. Therefore, we extend our modified ``covered SMR" definition to these other services also. We believe that this revised definition of the class of carriers covered by our rules also will better match expectations of consumers who use services of these carriers as to whether they will have access to 9-1-1 and E9-1-1 services. In addition, ``covered carriers" that offer dispatch services to their customers may meet their E9-1-1 obligations by providing access through a dispatcher, provided they comply with the notification requirement described above.

82. We agree with Nextel's assertion in its petition that the definition of "covered" services for E9-1-1 purposes should be applied on a system-by-system basis. Therefore, we clarify that where a licensee provides "covered" interconnected services on one system while providing traditional dispatch services on another system, only the "covered" system is required to provide E9-1-1 services.

83. Finally, we reject AMTA's alternative proposal that the "covered" service definition apply only to systems serving 20,000 or more subscribers nationwide. We seek to develop a definition that covers cellular, broadband PCS, and SMR providers based on the functional nature of the service they provide. A definition based solely on the size of a system without regard for the type of services provided would be arbitrary and incompatible with our policy objectives.

2. Mobile Satellite Services

a. Background and Petitions

84. In the E9-1-1 First Report and Order, the Commission exempted Mobile Satellite Services (MSS) from the 9-1-1 and E9-1-1 rules, recognizing that adding specific regulatory requirements to MSS may impede the development of service in ways that might reduce its ability to meet public safety needs. We noted that coordination with international standards bodies will be necessary for international calls, and the current state of technology requires more obstacles to be overcome in the case of MSS carriers than for terrestrial carriers. Thus, while we expected that CMRS voice MSS will eventually be required to provide appropriate access to emergency services, we did not adopt a schedule or other requirements for such service providers in this proceeding.

85. In its petition for reconsideration, the Coast Guard requests that the Commission reconsider this decision and issue a Further Notice of Proposed Rulemaking regarding the provision of emergency communications by MSS systems. The Coast Guard argues that it is best to resolve the issue of E9-1-1 access for MSS systems now, while mobile satellite voice systems are fairly new and not yet in widespread use, contending that public safety agencies will face the potentially tragic consequences of interoperability in the future without pertinent safety regulations and standards. Based on new facts from the recent discussion with AMSC, including new information on costs for providing Global Positioning Systems (GPS) for MSS phones, the Coast Guard claims that a reconsideration of our decision on MSS is required in the public interest.

86. In response to the Coast Guard's petition, several parties argue that the Commission should refrain from reconsidering our decision not to impose E9-1-1 requirements to MSS at this time. COMSAT, for example, contends that it is not appropriate or otherwise in the public interest for the Commission to extend its E9-1-1 rules unilaterally to existing global MSS offerings and urges that the Commission consider establishing an industry advisory group to facilitate further consideration of 9-1-1 compatibility issues for domestic MSS service providers. Motorola Satellite also argues that there is no need for a Further Notice of Proposed Rulemaking, because the ultimate MSS solution may not be similar to the approach for terrestrial systems, and because competition will result in MSS operators providing emergency communications. On the other hand, AMSC states that, although it does not agree completely with the Coast Guard's

characterization of the feasibility of providing certain emergency services, it supports the Coast Guard's request that the Commission play an active role in this process, either through the issuance of a Further Notice of Proposed Rulemaking or through some other mechanism, such as an industry advisory group.

b. Discussion

87. Upon reviewing the record, we affirm our decision not to impose E9-1-1 requirements upon MSS providers at this time, and we deny the Coast Guard's petition for reconsideration. As we recognized in the E9-1-1 First Report and Order, the commercial MSS industry is still in its infancy. Although we acknowledge the Coast Guard's argument that it would be best to resolve issues related to public safety communications and standards before the deployment of MSS becomes widespread, it is our policy in this proceeding not to impose specific regulatory requirements on certain classes of CMRS providers that have not yet fully developed their commercial services. In addition to MSS services, the Commission also exempted 220 MHz licensees operating on 5 kHz channels, noting that the 220 MHz service is in its early stages and is still evolving. Similarly, we determined that it is premature to require multilateration Location and Monitoring Service (LMS) to provide E9-1-1 at this time, because it is not certain how this service will develop. As we indicated in the E9-1-1 First Report and Order, we might revisit our decision if these various services develop into a mobile public telephone service like cellular or broadband PCS.

88. Because the public interest is likely to require that all CMRS real time two-way voice communications services provide reasonable and effective access to emergency services, we expect that CMRS voice MSS will eventually provide appropriate access to emergency services, either voluntarily or pursuant to Commission rules. We are confident that the domestic MSS industry will continue their efforts to coordinate with public safety agencies to develop mutually acceptable emergency access services in the meantime. Moreover, we agree with some parties that imposing national standards on systems operating land earth stations in the United States would leave global "Big LEO" MSS operators subject to both United States standards and to future international requirements, resulting in additional costs and uncertainty. COMSAT, for example, contends that the need to coordinate with international standards bodies and the current state of MSS technology pose real obstacles to the immediate deployment of E9-1-1 systems by MSS.

89. Although the Coast Guard argues that the Commission should lead the international standards bodies to develop compatible national and international safety standards for MSS, we believe that the MSS industry and the public safety community are in a better position than the Commission to coordinate with international organizations, such as the International Telecommunications Union. As the record indicates, emergency service requirements for global MSS systems should be developed in an international forum to take into account compatibility and consistency with international standards, and to avoid burdening United States MSS licensees with a patchwork of different requirements. Therefore, we urge the MSS industry and the public safety community to continue their efforts to develop and establish public safety standards along with the international standards bodies. We will revisit this issue if the MSS industry develops into a commercial mobile telephone service similar to cellular and broadband PCS, and still does not provide reliable public safety access to MSS customers.

D. Phase I E9-1-1 Requirements

1. Background and Petitions

90. In Phase I of the E9-1-1 deployment, Section 20.18(d) requires carriers to relay the telephone number of the originator of a 9-1-1 call (referred to as Automatic Number Identification or "ANI"), and the location of the cell site or base station receiving a 9-1-1 call (a capability often provided through a technique known as "pseudo-ANI") to the designated PSAP. The Commission determined that the provision of ANI and pseudo-ANI as part of Phase I will provide valuable information and will assist emergency responses both by identifying the base station or cell site and by permitting call back capability if the call is disconnected. Covered carriers are required to comply with Section 20.18(d) by April 1, 1998, provided that the PSAPs send their request for the Phase I implementation by October 1, 1997.

91. Recognizing that technology-related issues may prevent some wireless carriers from implementing Phase I within the required timetable, however, we stated that covered carriers may request a waiver of our rules. If a carrier requests a waiver, it must show sufficient factual support that either (1) its network equipment is not capable of transmitting ANI and "pseudo-ANI" and its equipment cannot be upgraded within the Phase I timetable; or (2) the local exchange carrier (LEC) used by the covered carrier to transmit 9-1-1 calls to the PSAP does not have the capability of transmitting ANI and "pseudo-ANI." We also stated that, if a carrier requests a waiver of Phase I requirement because its own equipment requires upgrading, it must submit with its waiver request a deployment schedule for meeting the Phase I requirements.

92. In their petitions for reconsideration, several parties request that the Commission clarify or modify the terms and the carrier's responsibilities regarding the Phase I requirements. Noting that the Commission did not define "appropriate PSAP" or "designated PSAP," Ameritech requests that the Commission clarify these terms and resolve issues related to multiple PSAPs and intersystem handoff problems. CTIA argues that the definition of "ANI" should be revised to reflect the fact that the ANI does not always represent the directory number of the calling party, claiming that the ANI is a system for billing calls that indicates the party responsible for paying for the call. With regard to the definition of "pseudo-ANI," TIA and CTIA request that the Commission revise the Section 20.3 definition so that it does not imply that a carrier must use "pseudo-ANI" to transmit the base station or cell site location information. XYPOINT urges the Commission to clarify that the Phase I requirement to transmit the telephone number of the 9-1-1 caller be "in the form of the full 10-digit directory number of the caller," arguing that transmission of any other number would cause confusion to PSAP operators, who may have to learn individual carrier, geographic, or technology codes.

93. As to the Phase I implementation schedule, BellSouth reiterates its argument that it is not technologically feasible to pass both ANI and "pseudo-ANI" at this time, given the current state of switching technology, particularly for systems using MF or conventional SS7 protocols. BellSouth thus requests the Commission to revise Section 20.18(d) of the Commission's Rules to require covered carriers to pass ANI or "pseudo-ANI," not both ANI and "pseudo-ANI." It also claims that carriers operating Motorola or Nortel systems will be requesting waivers, as will carriers in markets where the local exchange carrier (LEC) is incapable of passing the information to the

PSAP, contending that new selective routers must be installed in LEC networks in order to pass 10-digit ANI and "pseudo-ANI." In addition, in an ex parte letter, Nextel requests that the Commission delay the Phase I implementation deadlines for one year, citing the complexity of marketing, billing, and state and local funding and cost recovery issues. In later comments, it requests a delay of two years.

94. A number of parties urge the Commission to clarify the Phase I obligations of carriers in cases in which they cannot provide a call back number at all, or cannot provide a reliable call back number. TIA, for example, proposes that the Commission clarify that, "in cases where a mobile's directory number is not known to the serving carrier, the serving carrier's Phase I obligations extend only to delivering 9-1-1 calls to PSAPs, if the unit is capable of originating calls without registration, and that implementation of other E9-1-1 functionalities for such mobiles is not required." BellSouth also requests the Commission to clarify that the call back obligation does not apply to non-service initialized handsets. Similarly, PCIA argues that a carrier's obligation for non-service initialized phones should extend only to transmitting to the PSAP what logically should be a call back number, regardless of whether that number is valid.

95. Later ex parte presentations and additional comments in response to the July 16 Public Notice reiterate the arguments that reliable call back number can not be provided unless a 9-1-1 caller is a validated subscriber, i.e., a current subscriber of the serving carrier or a roamer with a roaming agreement with the serving carrier. On the other hand, Alliance in its July 11 ex parte filing contends that any handset can be called back by a PSAP by use of a "valid" MIN or a "pseudo-MIN" assigned to the calling handset by the cell switch at the time the 9-1-1 call is received. Many parties in their additional comments filed in response to the July 16 Public Notice, however, dispute Alliance's claim that the use of a "pseudo-MIN" is a feasible solution to the call back requirement.

96. In the September 25, 1997, Joint Letter, the parties contend that once number portability is implemented, a MIN will not serve as a unique identifier, and this will thwart the ability of carriers to provide call back capability. In addition to their proposals to modify Section 20.18(b) of the Commission's Rules, the parties to the Joint Letter urge the Commission to refrain from making any decisions regarding certain call back capabilities, the strongest signal issue, and the use of temporary call back numbers until the relevant parties develop consensus positions. While supporting a commitment by interested parties to continue to discuss technical issues, however, Congresswoman Eshoo and Alliance oppose the Joint Letter's suggestion that the Commission should wait for these developments to occur prior to resolving issues under reconsideration. Alliance also claims that a caller using a GSM handset can be called back even if service has never been initialized. In response to the claim made in the Joint Letter that the ability of carriers to provide call back numbers will be thwarted once number portability is implemented, Alliance argues that call back can be easily accomplished in the number portability situation as well by assigning a pseudo-ANI.

97. Further comments filed in response to the October 3 Public Notice generally dispute Alliance's contentions regarding the call back capability and the use of pseudo-ANI. Particularly, in response to Alliance's claim that call back is possible for uninitialized GSM handsets, some parties contend that the record clearly demonstrates that no technology, including GSM, can provide call back if

service has not been initialized. CTIA also claims that "call back will be possible only upon successful validation - i.e., a database query must be conducted to retrieve a dialable number," particularly once number portability is implemented. In addition, Sprint PCS contends that Alliance misconstrues the meaning of the term "pseudo-ANI," arguing that within the Sprint PCS CDMA system, a "pseudo-ANI" is a number assigned to a particular sector of a tower face that permits the system to identify the approximate location of the caller. Sprint PCS thus argues that the existence of a pseudo-ANI does not mean the existence of call back capability because pseudo-ANI is not associated with a specific handset. In their Joint Reply Comments, however, public safety community representatives argue that the issues related to the call back capability should remain open for discussion with Alliance and other interested parties.

2. Discussion

a. Clarification of Terms

(1) Selective Routing: Appropriate PSAP, Designated PSAP

98. As we noted in the E9-1-1 First Report and Order, the current E9-1-1 systems were originally developed for the wireline telephone services, allowing selective routing of 9-1-1 calls to the appropriate PSAP based on the location of 9-1-1 callers, among other features. We recognized that the nature of wireless technology presents significant obstacles to making E9-1-1 effective for wireless calls. In particular, we noted that selective routing of calls to the appropriate PSAP based on the location of the caller is complicated by the fact that a wireless caller is often moving and the transmission may be received at more than one cell site. The record indicated, however, that the carriers and the state or local entities have successfully coordinated the routing of wireless 9-1-1 calls to PSAPs, depending on the circumstances of each jurisdiction. To the extent that the terms "appropriate" and "designated" PSAPs, as used in the E9-1-1 First Report and Order, may be unclear, we wish to clarify that the responsible local or state entity has the authority and responsibility to designate the PSAPs that are appropriate to receive wireless 9-1-1 calls.

99. We recognize that the carriers need to coordinate with the state and local governmental entities to determine the designated PSAP, particularly where their service areas cover multiple political jurisdictions. We agree with Ameritech that, without guidance from state or local governmental entities, it may not be clear how a covered carrier would select among multiple PSAPs that may serve the same area but are managed by separate agencies or different governmental entities, crossing state or local political jurisdictions. We believe, however, that just as current wireline 9-1-1 systems have been successfully developed and managed by state and local governmental entities in coordination with the public safety organizations, these same bodies will successfully integrate wireline and wireless E9-1-1 systems. Until the relevant state or local governmental entities develop a routing plan for wireless 9-1-1 calls within their jurisdictions, therefore, covered carriers can comply with our rules by continuing to route 9-1-1 calls to their incumbent wireless PSAPs.

(2) Section 20.03 Definitions of ANI, Pseudo- ANI

100. Upon reviewing the petitions for reconsideration, we determine to grant the petitions filed by CTIA and TIA partially, by modifying the Section 20.03 definitions of "ANI" and "pseudo-ANI."

When the Commission defined ``ANI" as ``a system which permits the identification of the caller's telephone number," it was our understanding that covered carriers could provide call back numbers to the PSAP through the use of ANI. CTIA and TIA point out that ANI is a system for billing calls that indicates the person responsible for paying for the call, not always the directory number of the caller. In emergency service applications, ANI is modified to identify the calling party so it may be used as a call back number. We agree with CTIA that the current definition of ANI may be mistakenly interpreted, and we clarify the definition as suggested by CTIA. Therefore, we modify the Section 20.03 definition of ``Automatic Number Identification" to mean a system that (1) identifies the billing account for a call in other applications, but for 9-1-1 systems, identifies the calling party; and (2) can also be used as a call back number. This call back number should provide capability to reach roamers, either through a 10 digit ANI as XYPOINT proposes, or through other mechanisms that may be negotiated with the PSAPs to achieve the same purpose.

101. The Commission defined ``pseudo-ANI" as ``a system which identifies the location of the base station or cell site through which a mobile call originates," with the understanding that carriers could transmit cell site location information through the use of pseudo-ANI. Upon reviewing the record, we agree with TIA that pseudo-ANI may not be useful to convey location information in certain circumstances. A ``pseudo-ANI" mimics a telephone number, but is used to convey additional information to a PSAP or for other purposes. As TIA and CTIA discuss, the current definition may impair the flexibility of carriers to deliver the called number and the base station or cell site location information in ways that accommodate the capabilities of some wireline switches, and implies a particular implementation that may not be desirable for many wireless carriers.

102. Accordingly, we adopt the revised, implementation neutral definition of ``pseudo-ANI," as TIA and CTIA propose, by modifying the Section 20.03 definition of ``pseudo-ANI" to mean a number, consisting of the same number of digits as ANI, that is not a North American Numbering Plan telephone directory number and may be used in place of an ANI to convey a special meaning. The specific meaning assigned to the pseudo-ANI is determined by agreements, as necessary, between the telephone system originating the call, intermediate telephone systems handling and routing the call, and the destination telephone system.

103. This definition permits the specific meaning of the ``pseudo-ANI" to be determined by agreements among the telephone systems involved in completing the calls. With respect to Alliance's request that the Commission not leave any issues to industry agreement which may delay the implementation of E9-1-1, we do not believe that this modification of the Section 20.03 definition will delay Phase I implementation, because it only gives covered carriers flexibility in implementing Phase I. The change in the definition has no effect on the obligation to provide cell site or base station location information or on the Phase I implementation schedule.

b. Section 20.18(d) Phase I Requirements and Implementation Schedule

104. Upon reviewing the record, we deny BellSouth's petition to revise Section 20.18(d) of the Commission's Rules to require covered carriers to pass ANI or ``pseudo- ANI," not both ANI and ``pseudo-ANI." Contrary to the BellSouth claim that it is not technologically feasible to pass both types of information at this time, the record indicates that it is not only technically feasible, but that

the Phase I requirements are already being successfully implemented by carriers. While BellSouth's claim is based on the assumption that it is not currently possible to transmit 10-digit directory numbers through the LEC switch without major infrastructure upgrades because of the limited capabilities of the existing wireline-based 9-1-1 system, the record indicates that new technology can now provide for transmission of 10-digit telephone numbers using existing LEC systems. XYPOINT, for example, contends that its product can comply with the Phase I requirements without requiring any LEC upgrades. Proctor also claims that its product, Cell-Link System, fully satisfies the Phase I requirements using the existing 9-1-1 network, and that it has been implemented in the State of Washington by US West. Ex parte comments by the Coalition, of which Bell South is a member, also indicate that 10 digit ANI and pseudo-ANI can both be transmitted to PSAPs if appropriate trunks are used.

105. Moreover, we believe that the progress of TIA's Committee TR 45.2 standards will help resolve any remaining issues related to the implementation of the Phase I requirements. The more flexible definition of "pseudo-ANI" we are adopting in this Order should also facilitate carrier compliance. Based on current technological developments and the progress made by the industry standards-setting bodies, therefore, we find that there is no reason to modify or delay the Phase I requirements at this time. Thus, we also deny Nextel's request to delay the Phase I implementation schedule for one or two years. The modifications and clarifications we are adopting should make it easier for carriers to comply with the April 1, 1998 final deadline, most carriers appear ready to comply, and any delay would impair public safety. To the extent that Nextel or other carriers have particular problems meeting the Phase I implementation deadline, they may request specific waivers, subject to the requirements described in the E9-1-1 Report and Order and this section.

106. In its petition, BellSouth also claims that, in the absence of any revision to the requirements, the number of carriers requesting waivers may equal or exceed the number of carriers complying with the Phase I implementation schedule. BellSouth contends that new selective routers must be installed in LEC networks in order to pass 10 digit ANI and "pseudo-ANI." In the E9-1-1 First Report and Order, the Commission stated that the inability of a LEC to transmit 10-digit telephone numbers and cell site information can be a basis for a waiver of the Phase I requirements, based on our understanding that the upgrade of the existing LEC networks is a prerequisite to compliance with the Phase I requirements.

107. The record indicates, however, that it is currently feasible to comply with the Phase I requirements based on the current wireline E9-1-1 network, without incurring substantial upgrades either to LEC networks or to PSAP equipment. Considering these technological developments, we expect covered carriers to explore all available options, including non-LEC-based solutions, before filing a waiver application. As in the case of a waiver based on a carrier's own equipment upgrade, we will also require a carrier to submit a deployment schedule for meeting the Phase I requirements as a part of any waiver request based on a LEC's capability.

c. Obligation To Provide Call Back Capability

108. Some petitions seek clarification of the call back obligation, contending that carriers cannot always provide a call back number, or reliable call back capability. In the E9-1-1 First Report and Order, we stated that transmission of "code-identified" 9-1-1 calls will be useful in enabling

PSAPs, in some cases, to call back the person seeking emergency assistance if the person's 9-1-1 call is disconnected. Thus, the Commission recognized that call back information may not be available for handsets not currently in active service. Because the language in Section 20.18(d) of the Commission's Rules did not clarify this limitation, however, we grant the petitioners' request by clarifying that where the handset's directory number is not known to the serving carrier, the carrier's obligations under this section extend only to delivering 9-1-1 calls to PSAPs. Therefore, covered carriers will not be required to provide reliable call back numbers to PSAPs in the case of mobile units that are not associated with a dialable telephone number (for example, because they were designed or offered on an originate-only rate plan, they were never initialized, or the subscription has lapsed). Carriers will be expected to transmit all calling party information that is compatible with their systems for 9-1-1 calls from validated customers.

109. While we acknowledge that it is not currently possible for carriers to provide reliable call back numbers for all wireless 9-1-1 calls, and it is unlikely that the capabilities can be developed, tested, and implemented prior to the scheduled April 1, 1998, implementation date, we urge the wireless industry to continue their efforts to evaluate and develop these capabilities. In particular, we note Alliance's claim that call back capability is technically feasible in almost all situations, including "non-code identification" 9-1-1 calls, while also noting the various rebuttals to that claim.

110. While parties argue that Alliance's proposed solution is fraught with problems, and that the time and costs associated with developing the solution advocated by Alliance would be prohibitive, they also concede that it may be possible in the future to create unique call back capabilities for non-service initialized handsets. SBMS, for example, claims that substantial development work by switch manufacturers, along with network reconfiguration by wireless carriers, would be required to allow carriers to provide reliable call back numbers for all wireless 9-1-1 calls. Because the present record is insufficient to evaluate Alliance's proposed solution, however, we ask signatories to the Consensus Agreement and other interested parties to include a status report on this issue as part of their scheduled annual reports to us. We will revisit this issue when we resolve remaining issues in later stages of this proceeding.

E. Phase II E9-1-1 Requirements

1. Background and Pleadings

111. For E9-1-1 Phase II, we adopted rules requiring that, as of October 1, 2001, covered carriers provide to the designated PSAP the location of a 9-1-1 call by longitude and latitude within a radius of no more than 125 meters in 67 percent of all cases. Based on the record and reports from actual trials of ALI technologies, we determined that the degree of accuracy should be calculated through the use of Root Mean Square (RMS) methodology. To comply with this requirement, covered carriers must attempt to determine mobile unit location in each case in which a 9-1-1 call transits their system. For purposes of applying the RMS methodology, we stated that the level of accuracy achieved by the carrier shall be calculated based upon all 9-1-1 calls originated in a service area.

112. In their petitions for reconsideration, BellSouth, PCIA, Omnipoint, and Nokia ask the Commission to reconsider the Phase II ALI requirements, contending that the five-year

implementation schedule is premature. BellSouth, for example, urges the Commission to eliminate the current five- year Phase II deadline in favor of convening periodic industry meetings throughout the next two years to evaluate the status of end-to-end solutions. PCIA claims that the implementation date is not feasible for PCS and SMR systems, arguing that the current location technology may not work with PCS and SMR interfaces and no digital systems have been field tested. Similarly, Omnipoint raises several technical issues related to the PCS-1900 and IS-661 system. Nokia also argues that it is too early to determine the feasible accuracy for the different technologies, and urges the Commission to defer the Phase II implementation schedule.

113. On the other hand, other parties, including public safety organizations and location technology developers, urge the Commission to maintain the current Phase II implementation schedule. I-95 Coalition, for example, contends that the accuracy requirement is feasible with the current technology and that any delay in the current requirements would not be warranted. The Joint Commenters and KSI also argue that granting the PCIA and BellSouth petitions would delay the benefits of location technology for as much as three more years, to the detriment of public safety.

114. With regard to the accuracy standard of the Phase II requirement, some petitioners seek modification or clarification of our 125 meter standard by longitude and latitude using RMS. For example, TIA asks that the Commission require carriers to identify the location of 9-1-1 callers within 125 meters using measurement and compliance procedures other than longitude and latitude, as determined by industry standards-setting groups. Both the Ameritech and TIA petitions for reconsideration request that the Commission allow other measurement standards, such as Universal Transverse Mercator (UTM) coordinates and State Plane Coordinate Systems (SPCS). In response to these claims, however, KSI argues that there is no need to modify the longitude-latitude form, because this presentation of location is the distortion-free form used to express a position on the globe unambiguously and accurately.

115. After the close of the formal pleading cycle for reconsideration petitions, many parties filed ex parte presentations regarding ALI technologies, including network- based solutions and handset-based technologies using the GPS satellite system. Several of them made inquiries with respect to whether handset-based technologies using the GPS satellite system could comply with the Commission's rules. Other parties urge the Commission not to delay the Phase II implementation schedule, claiming that their products are currently capable of meeting the Phase II ALI requirement. TruePosition, for example, contends that its system is ready to be implemented after successful trials in the State of New Jersey.

116. In addition, TruePosition has provided the Commission with a recent public poll result which, according to TruePosition, demonstrates strong public support for the Commission's E9-1-1 Phase II requirements. According to the E9-1-1 Public Opinion Poll cited by TruePosition, the public values E9-1-1 location capability much more than the traditional caller ID functions or voice mail options commonly offered in wireless packages. Regarding the implementation schedule of the Phase II requirements, 42 percent of the people polled think that companies should be required to offer the ALI service sooner than 2001, while 35 percent support the current 2001 schedule and 17 percent support delay of the implementation schedule. Ameritech, however, urges the Commission

not to rely on the conclusions of the E9-1-1 Public Opinion Poll cited by TruePosition, in the absence of additional information allowing the Commission to verify that the survey is reliable.

2. Discussion

a. Phase II Implementation Schedule

117. Based on the record and new evidence presented to us after the adoption of the E9-1-1 First Report and Order, we reaffirm our commitment to firm target dates for wireless E9-1-1, and we deny portions of petitions for reconsideration filed by BellSouth, PCIA, Omnipoint, and Nokia that deal with the Phase II implementation schedule. As an initial matter, a petition for reconsideration must generally rely on facts which have not previously been presented to the Commission, rather than reiterating arguments made prior to the Commission's final action. While these petitioners urge the Commission to defer or modify the Phase II implementation schedule, we find that they fail to present new facts that warrant reconsideration of our decision.

118. BellSouth and Nokia argue that Phase II ALI requirement is premature, in that technical feasibility is not proven for the principal radiolocation technologies discussed on the record. To support its petition to defer the Phase II implementation schedule, BellSouth presents the results of an informal survey of more than 150 equipment vendors as to their ability to provide location information, claiming that no respondent provided assurance that any solution would function across the diversity of BellSouth's systems. In response to BellSouth's claim, however, KSI contends that it referred BellSouth to KSI's filings in this proceeding and preferred to reconvene discussions with BellSouth, rather than providing a detailed description of planned innovations.

119. In addition, in its ex parte presentation, Cambridge Positioning Systems (CPS) claims that it has developed technology capable of identifying positions to within 75 meters using the GSM networks at 900 MHz. We also note that Nokia's petition does not provide any new facts or circumstances that have not previously been presented to us prior to adoption of the E9-1-1 First Report and Order. In their opposition, the Joint Commenters urge that Nokia's and BellSouth's claims should be disregarded because the Commission made reasonable projections of the pace and affordability of new or developing technologies based on the facts presented in the record.

120. In adopting the Phase II requirements, we found that the record supported the proposal made in the Consensus Agreement that the 5-year implementation schedule for ALI technology allowed adequate time to develop the currently available location technologies for various wireless systems, despite the fact that some commenters claimed it was premature to adopt such a mandatory schedule. Actual testing and other evidence also convinced us that the 125 meter RMS standard is currently technically feasible and represents a satisfactory initial minimum standard. Moreover, technical developments and tests since the adoption of the E9-1-1 First Report and Order indicate that several location technology vendors have already proved the viability of the required 125 meter RMS standard. Even if this standard were not currently achievable, we also agree with the Joint Commenters that its achievement is a reasonable projection of the pace of this technology. Moreover, we believe that setting a firm date will encourage entrepreneurial efforts and investment to serve this market.

121. While PCIA and Omnipoint contend that the current location technologies may not work for various digital systems, particularly for PCS systems, we believe that the Phase II implementation schedule is sufficient to allow parties to develop necessary technology for digital wireless systems. Considering the importance of providing location information during emergencies and the passage of time since the establishment of PCS and the initiation of the E9-1-1 proceeding, we determine that the 5-year implementation schedule should not be delayed any longer and we urge the PCS industry and other wireless digital system providers to continue their efforts to comply with the rules. When the Commission adopted rules establishing PCS in 1993, we expressed particular concern that unless E9-1-1 capability is designed into PCS equipment, dialing 9-1-1 from a PCS telephone would not be sufficient equivalency to dialing 9-1-1 from a wireline telephone. We believe that the PCS and other digital system providers had sufficient notice to prepare for the implementation of the E9-1-1 features since 1993, and it is not necessary to delay the October 1, 2001 implementation schedule at this time.

122. In view of the recent development of, and demand for, wireless location products and services, we are also confident that our 5-year implementation schedule for the Phase II requirement is technically and commercially feasible for all wireless services, including the digital systems. Although we recognize the technical challenges for the new digital systems, such as TDMA and CDMA, we encourage the wireless carriers, equipment manufacturers, and the location technology vendors to continue their efforts to deploy ALI technologies for digital wireless systems as scheduled, rather than asking for delay so far in advance. Moreover, if a covered carrier cannot comply with the Phase II requirements by October 1, 2001, despite its good faith efforts, such carrier may file a waiver request to us along with its implementation plan, as we indicated in the E9-1-1 First Report and Order. Therefore, we agree with the Joint Commenters and KSI that granting petitions to reconsider the Phase II implementation schedule due to the technical uncertainties for certain digital systems would not be in the public interest and could unnecessarily delay the benefits of location technology. The Commission will also continue to consider whether requirements establishing a higher degree of ALI accuracy should be adopted to take effect after the close of the 5-year Phase II period.

123. One further point deserves mention. In setting deadlines and benchmarks for ALI, our policy has been to be technologically and competitively neutral. As we indicated in the E9-1-1 First Report and Order, our intention was to adopt general performance criteria, rather than extensive technical standards, to guide the development of wireless 9-1-1 services. Our goal is to ensure the rapid, efficient, and effective deployment of ALI as part of E9-1-1, in order to promote the public safety and welfare. Thus, we have not endorsed or mandated any particular ALI technology or approach, although we did recognize in the E9-1-1 First Report and Order that the parties at that time expected that ALI technology would be based in the network, not in the handset.

124. Since the E9-1-1 First Report and Order was adopted, however, we have received several inquiries with respect to whether other technologies, such as handset-based technologies using the GPS satellite system, could comply with our rules. To clarify our policies, we wish to reaffirm that our rules and their application are intended to be technologically and competitively neutral. We do not intend that the implementation deadline, the accuracy standard, or other rules should hamper the development and deployment of the best and most efficient ALI technologies and systems.

Manufacturers and other interested parties who believe that our rules could be applied in a way that might unreasonably hamper the deployment of effective ALI solutions may raise this issue in the ongoing rulemaking or by requests for waivers. We do not expect to delay the 2001 deadline, but would consider proposals to phase in implementation, especially to the extent a proposal also helps achieve the further improvements in ALI capabilities we discussed in the E9-1-1 Further NPRM.

b. ALI Accuracy Standard

125. With respect to the Phase II ALI accuracy standard of 125 meters using RMS methodologies, the I-95 Coalition argues that clarification of the accuracy requirement might be necessary, indicating that some parties might interpret the requirements as being met if the carrier is able to locate 67 percent of the mobile units with 100 percent accuracy or some combination of located users and levels of accuracy. Based on their concern that carriers might interpret the requirement as not requiring deployment in rural areas, the I-95 Coalition emphasizes the need for position location in rural as well as urban environments.

126. Section 20.18(e) of the Commission's Rules requires that covered carriers identify the latitude and longitude of a mobile unit making a 9-1-1 call, within a radius of no more than 125 meters using RMS measurement. Based upon the Consensus proposal, we determined in the E9-1-1 First Report and Order that the RMS methodology should be applied to reach this level of accuracy in identifying the location of each 9-1-1 call. To comply with the rules, therefore, we stated that a carrier must deploy the ALI technology in its service area and determine mobile unit location in each case in which a 9-1-1 call transits its system. To the extent that the discussion in the E9-1-1 First Report and Order may be unclear, we clarify that, as of October 1, 2001, licensees subject to this section must provide to the designated PSAP the location of all 9-1-1 calls by longitude and latitude such that the RMS is 125 meters or less, which would represent approximately a 67 percent to 75 percent probability that the reported location would be within a 125 meter radius of the caller's actual location. This would include 9-1-1 calls made by roamers in a carrier's service area. Therefore, we expect that any Phase II ALI technology deployed by a carrier, whether it is a network-based approach, or any other approach, would satisfy this requirement.

127. Other commenters urge that carriers be allowed to provide location information using data other than longitude and latitude. TIA urges the Commission to eliminate the longitude and latitude requirements and replace them with their equivalent such as UTM coordinates, contending that UTM coordinates do not have the disadvantages of longitude coordinates, which get closer together as the latitude moves away from the equator. Ameritech also requests the Commission replace the phrase "longitude and latitude" in Section 20.18(e) with the phrase "by longitude and latitude or equivalent, available and feasible technological measurement standards," arguing that longitude and latitude measurements may not be the most suitable for emergency telecommunications purposes. Motorola also requests that the requirement be modified to require accuracy as "within a 125 meter radius using measurement and compliance procedures as determined by industry standards group." On the other hand, KSI argues that the Commission correctly specified accuracy in terms of longitude and latitude, which has advantages of establishing the basis for common interface and system-application designs as well as providing cost effective management of the system in the PSAPs.

128. We believe that it is not in the public interest to revise our rules at this time. While we recognize the intention of Ameritech and TIA to provide flexible ways to comply with our rules, we believe that revision of the accuracy standard could in fact cause more confusion and delay in the deployment of the ALI systems, particularly for PSAPs that need to upgrade their systems to utilize the ALI data. The comments also do not provide a clear basis for concluding that other methods are superior. It is not apparent, for example, that UTM coordinates are preferable in practice because longitude coordinates are closer together away from the Equator. Latitude and longitude are the most universally known method for unambiguously identifying location. PSAPs, of course, can also translate this information into any other format they find useful.

129. The successful trial results in New Jersey convince us that the longitude and latitude measurement standard provides reliable location information relating to 9-1-1 callers in emergency situations without significant delay. Moreover, we agree with KSI that the use of the latitude-longitude format, a common standard format for location information, will allow the PSAP facilities to provide for the cost-effective management of E9-1-1 data. Considering the fact that the record in this proceeding supported the longitude and latitude measurement as a reasonable solution for the emergency situations, and in view of recent developments and actual testing results, we find that there is no need to modify our decision at this time and we thus deny the portion of the Ameritech and TIA petitions that request revision of our ALI accuracy standards. Similarly, we find that Motorola's proposal to allow industry standards-setting groups to determine measurement and compliance procedures could cause unnecessary delay in deployment of the ALI features. To the extent that industry standards-setting groups develop solutions to ALI problems that would improve performance, we will consider appropriate changes to the wireless E9-1-1 rules.

F. Other Issues

1. Limitation of Liability

130. In the E9-1-1 First Report and Order, the Commission decided not to exempt providers of E9-1-1 service from liability for certain negligent acts by preempting state tort law. We found that the record did not support the arguments that a general exemption from liability is essential to achieving the goals of the Communications Act. In particular, we noted that displacing the jurisdiction of state courts over tort suits for negligence in installation, performance, provision, or maintenance of E9-1-1 systems is not necessary to the inauguration of E9-1-1 service. Because there was no evidence that specific state regulations are incompatible with national E9-1-1 goals, we determined not to preempt any state laws at this time and to examine the need for specific preemption in the future on a case-by-case basis.

131. In response to concerns raised by some parties that the Wiretap Act could affect 9-1-1 operations or the legal liability of carriers, the Commission indicated in the Order that it had requested the Department of Justice to provide a legal opinion of the relationship between the Wiretap Act and the Commission's E9-1-1 rules. In a Public Notice issued December 10, 1996, the Commission announced that it had received a Department of Justice Memorandum Opinion finding that the wireless E9-1-1 rules do not require persons subject to those rules to engage in any practices that might result in a violation of the Wiretap Act or other applicable provisions of law.

132. Several petitioners seek reconsideration of our decision not to immunize wireless carriers from liability for 9-1-1 calls. These parties assert that the failure of the Commission to provide limited liability protection will be an obstacle to E9-1-1 implementation, contending that, without Federal liability limitations, state tort actions could interfere with Federal priorities for a workable long-term E9-1-1 system and for rapid introduction of more competitive mobile services. In addition, they claim that, if covered carriers are required to provide access to 9-1-1 for all callers, including those with whom they do not have any contractual relationship, they cannot contractually insulate themselves from liability when non-subscribers use their systems. AT&T also requests that the Commission make the Department of Justice's opinion available for review and comments.

133. In its petition, Ameritech requests that the Commission provide covered carriers with a limitation of liability, or alternatively, establish Federal guidelines for liability limitations and encourage public safety planning groups to work with the states to adopt such limitations. In addition, Ameritech asserts that the Commission could make the 9-1-1 service deployment obligation contingent upon public safety organizations indemnifying carriers for negligence and other unintended errors, as suggested by US West's Comment on the Consensus Agreement in this proceeding. AT&T argues that wireless carriers should be subject to the same "gross and wanton negligence" standard applied to wireline carriers by many states, asserting that the Commission's concern about displacing state authority in this context is misplaced. Alternatively, AT&T requests that the Commission require states to treat wireless carriers the same as wireline carriers with respect to liability, contending that such parity is consistent with the statutory goal of according similar regulatory treatment to providers of functionally equivalent services.

134. SBMS proposes that the Commission impose a liability limitation for providing 9-1-1 services and mandate that anyone using the carrier's network who does not have a contractual relationship with a carrier is subject to the carrier's standard terms and conditions. In addition, SBMS requests that the Commission determine that a carrier's inability to complete a call or provide the information required by this proceeding shall not be evidence of negligence. BellSouth also argues that carriers cannot control the accuracy of information generated from non-service initialized handsets, and thus should not be liable for inaccurate information provided to PSAPs with regard to such handsets.

135. On the other hand, Joint Commenters and TX-ACSEC oppose the petitions seeking reconsideration of our decision not to provide Federal protection from liability. They reason that, because existing state laws developed over the years for wireline 9-1-1 operations provide substantial protection against the privacy and ordinary negligence claims of most callers, and because state legislatures are to clarify that the same limitation of liability clause would apply to all service providers, it is not necessary for the Commission to preempt state tort law to achieve its goal at this time. TX-ACSEC, for example, states that a Texas state district court has held that wireless carriers are covered by the same broad statutory limitation of liability protection as those afforded wireline carriers under Texas law. In addition, Joint Commenters argue that state tort laws on wireless carrier liability would be among those powers reserved to non-Federal authorities by Section 332(c)(3) of the Communications Act. They also object to Ameritech's and US West's suggestion that public safety organizations indemnify carriers.

136. In the September 25, 1997 Joint Letter, the parties request that the Commission defer any decisions regarding carrier liability until the interested parties develop consensus positions. While supporting industry's commitment to continue negotiations with other interested parties, Congresswoman Eshoo urges the Commission not to delay resolution of issues under reconsideration. Parties filing further comments and reply comments generally support the proposal contained in the Joint Letter to defer any decision regarding the carrier liability issue. AT&T, however, contends that prompt resolution of the liability issue is critical. To the extent the Commission is concerned about preempting state tort law, AT&T proposes that the Commission "could issue a temporary default rule that would apply only where states have not resolved the issue." Nextel in its further comments also reiterates that the Commission should adopt a provision in this proceeding that would protect carriers from liability and that would preempt state laws to the extent they are inconsistent with the Commission's rules.

137. None of the petitioners, however, presents arguments sufficient to persuade us to modify our determination that it is unnecessary to exempt providers of E9-1-1 service from liability for certain negligent acts and to preempt state tort law. As we noted in the E9-1-1 First Report and Order, states have particular interests in telecommunications and public safety matters, including operation of 9-1-1 emergency services. Although the Commission may preempt state regulation when preemption is necessary to protect a valid Federal regulatory objective, we believe it is premature and speculative for the Commission to establish a national standard of liability protection in order to achieve rapid deployment of wireless E9-1-1 systems. As the Commission determined in the Order, "displacing the jurisdiction of state courts over tort suits for negligence in installation, performance, provision, or maintenance of E9-1-1 systems is not necessary to the inauguration of E9-1-1 service." Petitioners fail to persuade us that our decision to examine the need for specific preemption in the future on a case-by-case basis was wrong.

138. Petitioners' claims that the limitation of liability is necessary are not convincing, particularly considering the fact that major carriers are already transmitting all 9-1-1 calls and no evidence of liability problems is presented in the record of our reconsideration proceeding. Contrary to petitioners' speculative claim that current state laws are not "likely" to provide wireless carriers with adequate protection against liability, the record indicates that state legislative bodies and state courts are developing their own solutions to liability issues. While we recognize that not all states currently provide specific statutory limitation of liability protection for wireless carriers, we believe that state courts and state legislatures are the proper forums in which to raise this issue, not the Commission. For similar reasons, we deny AT&T's proposal that the Commission should ensure that wireless carriers are subject to the same "gross and wanton negligence" standard applied to wireline carriers by many states. In addition, as TX-ACSEC's opposition proves, certain states are trying to revise their tort laws to provide the same limitation of liability to both wireline and wireless services.

139. We also disagree with AT&T that a single uniform national standard of liability is required to achieve the goals of the Communications Act and that the Commission should preempt state tort law under Section 332(c) of the Act. While we recognize covered carriers' concern over potential exposure to liability in the provision of 9-1-1 services, we do not believe that the lack of a single national standard of liability should cause delay in implementation of effective wireless 9-1-1

services. Wireless carriers already transmit 9-1-1 calls without Federal preemption of state liability laws. Moreover, we do not believe that state tort laws dealing with 9-1-1 services should be considered as prohibited "rate and entry regulation of CMRS" under Section 332(c), at least without case-by-case evaluation. We find meritless AT&T's argument that the absence of protection against liability could have an unintended consequence of discouraging E9-1-1 deployment where PSAPs decline to hold carriers harmless, because covered carriers must deploy E9-1-1 services pursuant to our rules regardless of indemnification by the PSAPs.

140. As an alternative to a Federally mandated limitation of liability, petitioners also argue that the Commission should "require" states to treat wireless carriers the same as wireline carriers with respect to liability or "encourage" the public safety community to work with states to develop the necessary framework for indemnification agreements. Although we encourage the public safety community, wireless carriers, as well as state governments, to continue their efforts to develop mutually acceptable indemnification agreements, we affirm our prior decision that it is premature or unnecessary to preempt state laws at this time. We recognize, however, petitioners' claim that they cannot contractually insulate themselves from liability when non-subscribers use their systems. Because covered carriers are required to transmit 9-1-1 calls from all handsets regardless of subscription, we agree with SBMS that it would appear reasonable for a carrier to attempt to make the use of its network by a non-subscriber subject to the carrier's terms and conditions for liability. We do not, however, seek to preempt any applicable state laws.

141. We also do not adopt AT&T's proposal that we establish a temporary default rule that would apply only where states have not resolved the issue. This proposal was introduced very late in this proceeding in response to the Wireless Telecommunications Bureau's October 3 Public Notice, although the Notice did not seek additional comment on liability issues. No other party appears to have responded to this proposal. Despite AT&T's suggestion that its proposal relieves concerns about preemption of state tort law, it would appear that adoption of a default standard would in fact operate to preempt state law. If a default is to have any effect, it presumably must at least preclude state courts from applying state common law or precedent to wireless 9-1-1 liability issues. We find no adequate basis for imposing this sort of preemption upon the states.

142. With regard to AT&T's request that the Department of Justice's opinion regarding the application of the Wiretap Act be made available for review and comment, we do not believe it is necessary to seek comment. AT&T expresses its concern about carrier liability for disclosing calling party number, location, and other call related information to emergency personnel under the Wiretap Act. After the petitions for reconsideration were filed, the Commission received the Department of Justice's opinion. The Commission has already issued a Public Notice announcing the Department of Justice's opinion and the text of the opinion has been included in the docket for review. In a Memorandum Opinion, the Department of Justice concludes that the requirements of the Commission's rules relating to wireless E9-1-1 features and functions do not violate either the Wiretap Act, the Electronic Communications Act, or the Fourth Amendment to the United States Constitution. In particular, with respect to the interpretation of Section 1002(a) of the Wiretap Act, the Department of Justice concludes that the statutory provision, by its terms, does not prohibit a wireless carrier's transmission to local public safety organizations of information regarding the physical location of a wireless 9-1-1 caller.

2. Cost Recovery and Funding

143. In the E9-1-1 First Report and Order, the Commission determined not to prescribe a particular E9-1-1 cost recovery methodology, because (1) the record did not demonstrate a need for such action; and (2) an inflexible Federal prescription would deny carriers and Government officials the freedom to develop innovative cost recovery solutions tailored to local conditions and needs. The Commission also added that nothing in the record persuaded the Commission that, as a general matter, all state and local E9-1-1 cost recovery mechanisms are either necessarily permissible, or necessarily barred, under the provisions of Section 332(c) preempting state rate regulation of CMRS.

144. A number of petitioners argue that the Commission should require a Federal cost recovery mechanism or guidance to prevent discrimination against wireless carriers, or guarantee that the carriers will be paid. On the other hand, public safety organizations and state governments urge denial of these petitions, contending that the Commission properly rejected establishing a Federal cost recovery mechanism. In particular, Joint Commenters contend that petitioners reiterate arguments the Commission has already considered and denied in the Order. They also argue that petitioners have given the Commission no reason to change our decision favoring state and local initiatives for cost-effective and creative solutions to funding of wireless compatibility improvements.

145. We reaffirm our decision and deny petitions to establish a Federal cost recovery mechanism for the reasons stated in the E9-1-1 First Report and Order. We continue to find no adequate basis on this record for preemption of the various state and local funding mechanisms that are in place or under development, or for concluding that state and local cost recovery mechanisms will be discriminatory or inadequate.

146. Although some parties argue that the Commission should clarify who would be eligible to recover their costs in implementing E9-1-1 systems, we leave these issues to the state and local entities. We agree with the Joint Commenters that, absent failures of local agreement on funding mechanisms for the necessary compatibility upgrades by PSAPs, wireless and wireline carriers, and radiolocation and equipment vendors, national prescriptions are not warranted.

3. Additional Issues

147. In addition to their specific proposals, the parties to the Joint Letter also request that the Commission refrain from making any decisions at this time other than those related to their proposals. The Joint Letter states that the parties have scheduled meetings to discuss certain issues, and argues that only when all relevant parties have had the opportunity to study in depth and present consensus positions to the Commission will the Commission have sufficient information to make a reasoned decision. The Joint Letter specifically proposes deferral of decisions regarding carrier liability, certain call back capabilities, strongest signal technology, the use of temporary call back numbers, and the status of uninitialized phones.

148. We have not deferred decisions on any of these issues based on the Joint Letter. Interested parties have had numerous opportunities to develop proposals to address the issues in this

proceeding. They have also had many opportunities to present their views on the record, both individually and jointly. While we encourage all parties to work toward the effective resolution of issues in this and other proceedings in the public interest, we will not delay decisions on the current record in the hope that this will happen.

IV. PROCEDURAL MATTERS

A. Regulatory Flexibility Act

149. As required by Section 603 of the Regulatory Flexibility Act, the Commission has prepared a Supplemental Final Regulatory Flexibility Analysis of the expected impact on small entities of the changes in our rules adopted herein. The Supplemental Final Regulatory Flexibility analysis is set forth in Appendix C.

B. Paperwork Reduction Act of 1995 Analysis

150. This Order contains either proposed or modified information collections. As part of its continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections contained in this Order, as required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13. Public and agency comments are due 60 days from date of publication of this Order in the Federal Register. Comments should address:

n Whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility.

n The accuracy of the Commission's burden estimates.

n Ways to enhance the quality, utility, and clarity of the information collected.

n Ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

Comments on the information collections contained in this Order should be submitted to Judy Boley, Federal Communications Commission, Room 234, 1919 M Street, N.W., Washington, DC 20554, or via the Internet to jboley@fcc.gov, and to Timothy Fain, OMB Desk Officer, 10236 NEOB, 725 - 17th Street, N.W., Washington, DC 20503, or via the Internet to fain_t@al.eop.gov.

C. Authority

151. This action is taken pursuant to Sections 1, 4(i), 201, 303, 309, and 332 of the Communications Act of 1934, as amended by the Telecommunications Act of 1996, 47 U.S.C. \247\247 151, 154(i), 201, 303, 309, 332.

D. Further Information

152. For further information, contact Dan Grosh or Won Kim of the Policy Division, Wireless Telecommunications Bureau, at 202-418-1310 (voice) or 202-418-1169 (TTY).

V. ORDERING CLAUSES

153. Accordingly, IT IS ORDERED that the Petitions for Reconsideration of the First Report and Order, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 9-1-1

Emergency Calling Systems, CC Docket No. 94-102, 11 FCC Rcd 18676 (1996), filed by parties listed in Appendix A, ARE GRANTED in part, as provided in the text of the Order, and OTHERWISE DENIED.

154. IT IS FURTHER ORDERED that Part 20 of the Commission's Rules is amended as set forth in Appendix B.

155. IT IS FURTHER ORDERED that Sections 20.18(a), 20.18(c), and 20.18(g) of the Commission's Rules, 47 C.F.R. \247\247 20.18(a), 20.18(c), 20.18(g), as amended by this Order in Appendix B, and the foregoing provisions of this Order that pertain to Sections 20.18(a), 20.18(c), and 20.18(g) of the Commission's Rules, SHALL BECOME EFFECTIVE upon publication in the Federal Register. This action is taken on the basis of our finding that, because the amended provisions of Sections 20.18(a), 20.18(c), and 20.18(g) are substantive rules that have the effect of granting an exemption, the effective date of these provisions may occur less than 30 days before publication of the provisions, pursuant to Section 553(d)(1) of title 5, United States Code.

156. IT IS FURTHER ORDERED that (1) Section 20.18(b) of the Commission's Rules, 47 C.F.R. \247 20.18(b), as amended by this Order in Appendix B; (2) the definition of "designated PSAP" in Section 20.3 of the Commission's Rules, 47 C.F.R. \247 20.3, as added by this Order in Appendix B; and (3) the foregoing provisions of this Order that pertain to Section 20.18(b) of the Commission's Rules, and to the definition of "designated PSAP" in Section 20.3 of the Commission's Rules SHALL BECOME EFFECTIVE upon publication in the Federal Register. This action is taken, pursuant to Section 553(d)(3) of title 5, United States Code, on the basis of our finding that there is good cause that the effective date of these provisions should occur less than 30 days before publication of the provisions. Our finding of good cause is based upon our conclusion that the rule change will serve the purpose of "promoting the safety of life and property" under Section 1 of the Communications Act and that the particular safety issues involved - extending the benefits of 9-1-1 services to as many wireless phone users as possible - are of sufficient importance to warrant making the rule requirements immediately effective upon publication in the Federal Register. In addition, we note that, since the adoption of the E9-1-1 First Report and Order in June 1996 there has been considerable confusion and uncertainty regarding the ability of covered carriers to comply with the provisions of Section 20.18(b) of the Commission's Rules, as those provisions were initially prescribed in the E9-1-1 First Report and Order. This confusion and uncertainty were heightened by assertions made by the Wireless 9-1-1 Coalition regarding technical issues associated with requirements imposed by the rule. Although the decision of the Wireless Telecommunications Bureau in the Stay Order was an appropriate step in this case in light of the continuing pendency of these issues at the time the Stay Order was issued, it also resulted in a continuation of the confusion and uncertainty surrounding the question of whether all users of wireless services provided by covered carriers could expect and rely upon the fact that their 9-1-1 calls would go through to emergency service providers. Now that we have resolved this issue by the action we take today, we can find no basis for any failure to end as quickly as possible this confusion and uncertainty regarding the obligations of covered carriers and the public safety expectations of the users of wireless services.

157. IT IS FURTHER ORDERED that the remaining rule amendments made by this Order and specified in Appendix B SHALL BECOME EFFECTIVE 30 days after the date of the publication of the rule amendments in the Federal Register.

158. IT IS FURTHER ORDERED that the Wireless Telecommunications Bureau is hereby delegated authority to grant an additional 3-month suspension of enforcement of Section 20.18(c) of the Commission's Rules, 47 C.F.R. \247 20.18(c), until January 1, 1999, with respect to wireless carriers who use digital wireless systems, upon reviewing the joint quarterly status reports on TTY compatibility with digital systems filed by the signatories to the TTY Consensus Agreement.

159. IT IS FURTHER ORDERED that the signatories to the TTY Consensus Agreement SHALL FILE a joint quarterly status report regarding TTY compatibility with digital systems within 10 days after the end of each calendar quarter during the period beginning January 1, 1998 and ending September 30, 1998, with the first report due April 10, 1998, as set forth in the foregoing provisions of this Order.

160. IT IS FURTHER ORDERED that the Request of an Extension of Time to File the Joint Status Report on TTY Issues, filed by the Cellular Telecommunications Industry Association on October 1, 1997, IS GRANTED, and that the signatories to the Consensus Agreement, the Personal Communications Industry Association, and Telecommunications for the Deaf, Inc. must file a Joint Status Report on or before December 31, 1997.

161. IT IS FURTHER ORDERED that the information collections contained in the rule amendments set forth in Appendix B WILL BECOME EFFECTIVE following approval by the Office of Management and Budget. The Commission will publish a document at a later date establishing the effective date.

162. IT IS FURTHER ORDERED that, the Director of the Office of Public Affairs shall send a copy of this Order, including the Supplementary Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act, 5 U.S.C. \247\247 601 et seq.

Magalie Roman Salas

Secretary

APPENDIX A - LIST OF PARTIES

A. Petitions for Reconsideration or Clarification : September 3, 1996

1. Ameritech
2. AMTA (American Mobile Telecommunications Associations, Inc.)
3. AT&T (AT&T Wireless Services, Inc.)
4. BANM (Bell Atlantic NYNEX Mobile)
5. BellSouth (BellSouth Corporation)
6. Coast Guard (United States Coast Guard)

7. CTIA (Cellular Telecommunications Industry Association)
8. Nextel (Nextel Communications, Inc.)
9. Nokia (Nokia Telecommunications, Inc.)
10. Omnipoint (Omnipoint Communications, Inc.)
11. PCIA (Personal Communications Industry Association)
12. PrimeCo (PrimeCo Personal Communications, L.P.)
13. SBMS (Southwestern Bell Mobile Systems, Inc.)
14. SBT (Small Business in Telecommunications, Inc.)
15. TIA (Telecommunications Industry Association)
16. XYPOINT (XYPOINT Corporation)

B. Oppositions and Comments to Petitions for Reconsideration : October 8, 1996

1. AMSC (AMSC Subsidiary Corp.)
2. Alliance (Ad Hoc Alliance for Public Access to 9-1-1)
3. Chicago (The City of Chicago)
4. I-95 Coalition (I-95 Corridor Coalition)
5. Joint Commenters (APCO, NENA, and NASNA)
6. KSI (KSI Inc. and MULOC Inc.)
7. LQL (L/Q Licensee, Inc.)
8. Nextel (Nextel Communications)
9. PBMS (Pacific Bell Mobile Services)
10. TX-ACSEC (Texas Advisory Commission on State Emergency Communications)

C. Replies to Oppositions : October 18, 1996

1. Ameritech (Ameritech Corporation)
2. AT&T (AT&T Wireless Services, Inc.)
3. BellSouth (BellSouth Corporation)
4. CAN (Consumer Action Network)
5. COMSAT (COMSAT Corporation)
6. Motorola (Motorola, Inc.)
7. Motorola Satellite (Motorola Satellite Communications, Inc.)

8. NAD (National Association of the Deaf)
9. Nextel (Nextel Communications, Inc.)
10. Omnipoint (Omnipoint Communications, Inc.)

D. Ex Parte Presentations Subject to July 16, 1997, Public Notice

1. Alliance (Ad Hoc Alliance for Public Access to 9-1-1): July 11, 1997.
2. Coalition (Wireless E9-1-1 Coalition): July 10, 1997.
3. GTE (GTE Wireless Service Corporation): July 7, 1997.

F. Additional Comments Filed in Response to the July 16 Public Notice : July 28, 1997.

1. AirTouch (AirTouch Communications, Inc.)
2. APCO (Association of Public-Safety Communications Officials-International, Inc.)
3. AT&T (AT&T Wireless Services, Inc.)
4. BANM (Bell Atlantic NYNEX Mobile)
5. CTIA (Cellular Telecommunications Industry Association)
6. MULOC (MULOC, Inc.)
7. NENA (National Emergency Number Association)
8. Nextel (Nextel Communications, Inc.)
9. RCA (Rural Cellular Association)
10. SBMS (Southwestern Bell Mobile Systems)
11. XYPOINT (XYPOINT Corporation)
12. 360o (360o Communications Company)

G. Ex Parte Presentations Subject to October 3, 1997, Public Notice

1. Joint Letter (CTIA, PCIA, APCO, NENA, and NASNA) : September 25, 1997
2. Eshoo Letter (Congresswoman Anna Eshoo) : September 29, 1997
3. Alliance Letter (Ad Hoc Alliance for Public Access to 9-1-1) : September 30, 1997

H. Further Comments in Response to the October 3 Public Notice

n Comments : Filed October 17, 1997

1. AirTouch (AirTouch Communications, Inc.)
2. AT&T (AT&T Wireless Services, Inc.)
3. BellSouth (BellSouth Corporation)
4. CTIA (Cellular Telecommunications Industry Association)
5. GTE (GTE Service Corporation)
6. Nextel (Nextel Communications, Inc.)
7. MCC (Matsushita Communication Industrial Corporation of America)
8. PCIA (Personal Communications Industry Association)
9. PrimeCo (PrimeCo Personal Communications, L.P.)
10. Sprint PCS (Sprint Spectrum, L.P.)
11. TruePosition (TruePosition, Inc.)
12. US West (US West, Inc.)

n Reply Comments : Filed October 27, 1997

1. Ameritech (Ameritech Corporation)
2. AMTA (American Mobile Telecommunications Associations, Inc.)
3. AT&T (AT&T Wireless Services, Inc.)
4. Joint Reply Comments (APCO, NENA and NASNA)
5. Zoltar (Zoltar Satellite Alarm Systems)<

APPENDIX B - FINAL RULES

Part 20 of Title 47 of the Code of Federal Regulations is amended as follows:

Part 20 - COMMERCIAL MOBILE RADIO SERVICES

1. Section 20.3 is amended by revising the following definitions to read as follows:

Section 20.3 Definitions

* * * * *

Automatic Number Identification (ANI). A system that identifies the billing account for a call. For 9-1-1 systems, the ANI identifies the calling party and may be used as a call back number.

* * * * *

Pseudo Automatic Number Identification (Pseudo-ANI). A number, consisting of the same number of digits as ANI, that is not a North American Numbering Plan telephone directory number and may be used in place of an ANI to convey special meaning. The special meaning assigned to the pseudo-ANI is determined by agreements, as necessary, between the system originating the call, intermediate systems handling and routing the call, and the destination system.

* * * * *

2. Section 20.3 is amended by deleting the following definitions:

Code Identification. A Mobile Identification Number for calls carried over the facilities of a cellular or Broadband PCS licensees, or the functional equivalent of a Mobile Identification Number in the case of calls carried over the facilities of a Specialized Mobile Radio Services.

* * * * *

Mobile Identification Number. A 34-bit number that is a digital representation of the 10-digit directory telephone number assigned to a mobile station.

* * * * *

3. Section 20.3 is amended by adding the following definition to read as follows:

Designated PSAP. The Public Safety Answering Point (PSAP) designated by the local or state entity that has the authority and responsibility to designate the PSAP to receive wireless 9-1-1 calls.

* * * * *

4. Section 20.18 is amended by revising it to read as follows:

\247 20.18 9-1-1 Service.

(a) Scope of Section. The following requirements are only applicable to Broadband Personal Communications Services (part 24, subpart E of this chapter), Cellular Radio Telephone Service (part 22, subpart H of this chapter), and Geographic Area Specialized Mobile Radio Services and Incumbent Wide Area SMR Licensees in the 800 MHz and 900 MHz bands (included in Part 90,

subpart S of this chapter). In addition, service providers in these enumerated services are subject to the following requirements solely to the extent that they offer real-time, two way switched voice service that is interconnected with the public switched network and utilize an in-network switching facility which enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls.

(b) Basic 9-1-1 Service : Licensees subject to this section must transmit all wireless 9-1-1 calls without respect to their call validation process to a Public Safety Answering Point, provided that "all wireless 9-1-1 calls" is defined as "any call initiated by a wireless user dialing 9-1-1 on a phone using a compliant radio frequency protocol of the serving carrier."

(c) TTY Access to 9-1-1 Services : Licensees subject to this section must be capable of transmitting 9-1-1 calls from individuals with speech or hearing disabilities through means other than mobile radio handsets, e.g., through the use of Text Telephone Devices (TTY).

NOTE: Enforcement of the provisions of this subsection is suspended until October 1, 1998, in the case of calls made using a digital wireless system that is not compatible with TTY calls, provided that the licensee operating such a digital system shall make every reasonable effort to notify current and potential subscribers who use or may use such a system that they will not be able to make a 9-1-1 call over such system through the use of a TTY device.

(d) Phase I Enhanced 9-1-1 Services

(1) As of April 1, 1998, licensees subject to this section must provide the telephone number of the originator of a 9-1-1 call and the location of the cell site or base station receiving a 9-1-1 call from any mobile handset accessing their systems to the designated Public Safety Answering Point through the use of ANI and Pseudo-ANI.

(2) When the directory number of the handset used to originate a 9-1-1 call is not available to the serving carrier, such carrier's obligations under the paragraph (d)(1) extend only to delivering 9-1-1 calls and available calling party information to the designated Public Safety Answering Point.

NOTE: With respect to 9-1-1 calls accessing their systems through the use of TTYS, licensees subject to this section must comply with the requirements in paragraphs (d)(1) and (d)(2) above, as to calls made using a digital wireless system, as of October 1, 1998.

(e) Phase II Enhanced 9-1-1 Services As of October 1, 2001, licensees subject to this section must provide to the designated Public Safety Answering Point the location of all 9-1-1 calls by longitude and latitude such that the accuracy for all calls is 125 meters or less using a Root Mean Square (RMS) methodology.

(f) Conditions for Enhanced 9-1-1 Services The requirements set forth in paragraphs (d) and (e) of this section shall be applicable only if the administrator of the designated Public Safety Answering Point has requested the services required under those paragraphs and is capable of receiving and utilizing the data elements associated with the service, and a mechanism for recovering the costs of the service is in place.

(g) Dispatch Service A service provider covered by this section who offers dispatch service to customers may meet the requirements of this section with respect to customers who utilize dispatch service either by complying with the requirements set forth in paragraphs (b) through (e) of this section, or by routing the customer's emergency calls through a dispatcher. If the service provider chooses the latter alternative, it must make every reasonable effort to explicitly notify its current and potential dispatch customers and their users that they are not able to directly reach a PSAP by calling 9-1-1 and that, in the event of an emergency, the dispatcher should be contacted.

APPENDIX C

Supplemental Final Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act, 5 U.S.C. § 247.603 (RFA), a Final Regulatory Flexibility Analysis (FRFA) was incorporated in Appendix B of the E9-1-1 First Report and Order in this proceeding. The Commission's Supplemental Final Regulatory Flexibility Analysis (SFRFA) in this Memorandum Opinion and Order (MO&O) reflects revised or additional information to that contained in the FRFA. The SFRFA is thus limited to matters raised in response to the E9-1-1 First Report and Order and addressed in this MO&O. This SFRFA conforms to the RFA, as amended by the Contract with America Advancement Act of 1996 (CWAAA), Pub. L. No. 104-121, 110 Stat. 846 (1996).

I. Need For and Objectives of the Action

The actions taken in this MO&O are in response to petitions for reconsideration or clarification of the rules adopted in the E9-1-1 First Report and Order requiring wireless carriers to implement 9-1-1 and Enhanced 9-1-1 (E9-1-1) services. The limited revisions made in the MO&O are intended to remedy technical problems raised in the record while otherwise reaffirming the Commission's commitment to the rapid implementation of the technologies needed to bring emergency help to wireless callers throughout the United States.

II. Summary of Significant Issues raised by the Public Comments in Response to the Final Regulatory Flexibility Statement

No comments were received in direct response to the FRFA, but the Commission received 16 petitions for reconsideration of the E9-1-1 First Report and Order. The majority of petitioners ask that the Commission reconsider the rules governing when covered wireless carriers must make 9-1-1 access available to callers. Other petitioners ask that the Commission reconsider or clarify a variety of issues ranging from the implementation date for covered carriers to provide 9-1-1 access to people with hearing or speech disabilities through the use of Text Telephone Devices, such as TTYs, to the definition of which wireless carriers must comply with the rules, particularly in regard to "covered Special Mobile Radios (SMRs)." Paragraphs 1-5 of this MO&O provide a more detailed discussions of the petitions and the resulting actions. Additionally, as discussed in paragraphs 10-12, several parties filed ex parte presentations raising technical issues which

prompted the Commission to stay the October 1, 1997 implementation dates for Section 20.18(a), (b), and (c) through November 30, 1997, and to seek further comment.

III. Description and Estimate of the Number of Small Entities to Which Rules Will

Apply

The rules adopted in this MO&O will apply to providers of broadband Personal Communications Service (PCS), Cellular Radio Telephone Service, and Specialized Mobile Radio (SMR) Services in the 800 MHz and 900 MHz bands. Service providers in these services are subject to 9-1-1 requirements solely to the extent that they offer real-time, two way switched voice service that is interconnected with the public switched network and utilize an in-network switching facility which enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls.

a. Estimates for Cellular Licensees

As indicated in the FRFA, the Commission has not developed a definition of small entities applicable to cellular licensees. Therefore, the applicable definition of small entity is the definition under the Small Business Administration (SBA) rules applicable to radiotelephone companies. This definition provides that a small entity is a radiotelephone company employing fewer than 1,500 persons. In addition to the data supplied in the FRFA, a more recent source of information regarding the number of cellular services carriers nationwide is the data that the Commission collects annually in connection with the Telecommunications Relay Service (TRS) Worksheet. That data shows that 792 companies reported that they were engaged in the provision of cellular services. Although it seems certain that some of these carriers have fewer than 1,500 employees, and because a cellular licensee may have several licenses, we are unable at this time to estimate with greater precision the number of cellular carriers that would qualify as small business concerns under the SBA's definition. Consequently, we estimate that, for purposes of our evaluations and conclusions in the SFRFA, all of the current cellular licensees are small entities, as that term is defined by the SBA.

b. Estimates for Broadband PCS Licensees

As indicated in the FRFA, the broadband PCS spectrum is divided into six frequency blocks designated A through F. The FRFA provides a full explanation as to the definition of small business in the context of broadband PCS licensees, using the definition SBA approved, developed by the Commission for Blocks C-F, that a small business is an entity that has average gross revenues of less than \$40 million in the three previous calendar years. In addition, the SBA has approved a Commission definition (for Block F) of "very small business" which is an entity that, together with their affiliates, has average gross revenues of not more than \$15 million for the preceding three calendar years. No small businesses within the SBA approved definition bid successfully for licenses in Blocks A and B. There were 90 winning bidders that qualified as small entities in the Block C auctions. A total of 93 small and very small business bidders won approximately 40 percent of the 1,479 licenses for Blocks D, E, and F. However, not all licenses for Block F have been awarded. Because licenses were awarded only recently, there are few small businesses currently providing broadband PCS services. Based on this information, we conclude

that the number of small broadband PCS licensees includes the 90 small business winning C Block bidders and the 93 qualifying bidders in the D, E, and F Blocks, for a total of 183 small broadband PCS providers as defined by the SBA and the Commission's auction rules.

c. Estimates for SMR Licensees

The FRFA indicates that, pursuant to 47 C.F.R. § 90.814(b)(1), the Commission has defined "small entity" for geographic area 800 MHz and 900 MHz SMR licenses as firms that had average gross revenues of less than \$15 million in the three previous calendar years. This regulation defining "small entity" in the context of 800 MHz and 900 MHz SMR has been approved by the SBA. As the FRFA noted, we do not know how many firms provide 800 MHz or 900 MHz geographic area SMR service pursuant to extended implementation authorizations, nor how many of these providers have annual revenues of less than \$15 million. The number of licensees cannot be estimated, because, although we know that there are a total of slightly more than 31,000 SMR licensees, one licensee can hold more than one license. We do know, however, that one of these firms has over \$15 million in revenues. We assume, for purposes of our evaluations and conclusions in this SFRFA, that all of the remaining existing extended implementation authorizations are held by small entities, as that term is defined by the SBA.

Further, the Commission has no way of accurately determining which licensees would fall under the definition of "covered carrier" as expressed in the MO&O. The Commission still concludes that the number of geographic area SMR licensees affected by our action in this proceeding includes the 55 small entities who bid for and won geographic licenses in the 900 MHz SMR band. These 55 small entities hold a total of 245 licensees. As of the adopted date of this decision, the auction for 800 MHz geographic area SMR licenses had not yet been completed. A total of 525 licenses will be awarded for the upper 200 channels in the 800 MHz geographic area SMR auction. However, the Commission has not yet determined how many licenses will be awarded for the lower 230 channels in the 800 MHz geographic area SMR auction. There is no basis to estimate, moreover, how many small entities within the SBA's definition will win these licenses. Given the facts that nearly all radiotelephone companies have fewer than 1,000 employees and that no reliable estimate of the number of prospective 800 MHz licensees can be made, we assume, for purposes of our evaluations and conclusions in this SFRFA, that all of the licenses will be awarded to small entities, as that term is defined by the SBA.

IV. Description of Projected Reporting, Recordkeeping, and Other Compliance

Requirements

The Commission is submitting several burdens to the Office of Management and Budget for approval. First, Public Safety Answering Points (PSAP) who are willing to participate in Phase I and Phase II of E9-1-1 service must notify the covered carrier that they are capable of receiving and utilizing the data elements associated with the service and request the service. Also, cost recovery mechanisms must be in place as a prerequisite to the imposition of enhanced 9-1-1 service requirements upon covered carriers. In the MO&O, the Commission requires that covered carriers whose digital systems are not compatible with TTY calls must make every reasonable

effort to notify current and potential subscribers that they will not be able to use TTYs to call 9-1-1 with digital wireless devices and services.

In addition, to monitor the progress of the wireless industry regarding TTY compatibility, the Commission requires that the signatories to the TTY Consensus Agreement file quarterly progress reports in this docket within ten days after the end of the quarter beginning January 1, 1998, until the quarter ending September 30, 1998. At the same time, the Commission grants the request of extension of time to file a Joint Status Report on TTY issues, that was due on October 1, 1997, and requires the signatories to the Consensus Agreement to file the Joint Status Report on TTY issues by December 30, 1997.

In the MO&O, the Commission also requires that covered carriers who offer dispatch service to customers and choose to comply with Commission rules by routing dispatch customer emergency calls through a dispatcher, rather than directly routing to the PSAP, must make every reasonable effort to explicitly notify the current and potential dispatch customers and their users that they will not be able to directly reach a PSAP by calling 9-1-1 and that, in the event of an emergency, the dispatcher should be contacted.

The MO&O, while revising the definition of "pseudo-ANI," provides that the specific meaning assigned to the pseudo-ANI is determined by agreements, as necessary, between the telephone system originating the call, intermediate telephone systems handling and routing the call, and the destination telephone system. Additionally, in recognition of the difficulty involved in assigning wireless 9-1-1 calls to the appropriate PSAP based on location, the MO&O clarifies that the responsible local or State entity has the authority and responsibility to designate the PSAPs that are appropriate to receive wireless E9-1-1 calls, noting that this will require continued coordination between carriers and State and local entities. The MO&O lastly provides that covered carriers can request a waiver of the Phase I implementation schedule based on inability to transmit 10-digit telephone numbers and cell site information, but requires that any waiver request based on a LEC's capability must be accompanied by a deployment schedule for meeting the Phase I requirements.

V. Significant Alternatives and Steps Taken By Agency to Minimize Significant Economic Impact on Small Entities Consistent with Stated Objectives

This MO&O is adopted in response to petitions for reconsideration, including several filed by small businesses. After consideration of these petitions, the MO&O first modifies the rules by requiring covered carriers to transmit all 9-1-1 calls. Section 20.18(b) of the Commission's Rules, 47 C.F.R. \247 20.18(b), as adopted in the E9-1-1 First Report and Order, required that carriers transmit 9-1-1 calls from all handsets which transmit "code identifications" and transmit all 9-1-1 calls, even those without code identification, if requested to do so by a PSAP administrator. Thirteen of the sixteen petitioners ask that the Commission reconsider this requirement. After a review of the arguments raised by the petitioners in opposition to the rule, the MO&O finds that the rules adopted in the E9-1-1 First Report and Order would impose unreasonable cost, delay, and administrative burdens on wireless carriers, and that, at least for the present, the most practical, least expensive and most efficient option is to require covered carriers to forward all 9-1-1 calls.

Three original petitioners request that the Commission modify or defer the implementation dates of rules requiring covered carriers to provide 9-1-1 access to people with hearing or speech disabilities through the use of TTYs with respect to digital wireless systems, due to technical incompatibility. Although the Commission decides against deferring the implementation date indefinitely until the industry standards bodies resolve all the technical issues, as these petitioners request, it temporarily suspends enforcement of the TTY requirement for digital wireless systems until October 1, 1998, subject to a notification requirement.

Also, in response to 5 petitions seeking reconsideration of the Commission's decision as to the wireless carriers to whom the rules apply particularly for covered SMRs, the MO&O narrows the definition of "Covered SMRs" for E9-1-1 purposes to include only those systems that offer real-time, two way switched voice service that is interconnected with the public switched network and utilize an in-network switching facility which enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls. The Commission also decides to extend the modified definition to covered broadband PCS and cellular as well as SMR providers. We agree with the petitioners on this issue that the current rule could encompass SMR providers that primarily offer traditional dispatch services but also offer limited interconnection capability and that such traditional dispatch providers would have to overcome significant and potentially costly obstacles to provide 9-1-1 access. Furthermore, under the revised rules, the "covered" SMR systems that offer dispatch services to customers may meet their 9-1-1 obligations either by providing customers with direct capability for 9-1-1 purposes, or alternatively, by routing dispatch customer emergency calls through a dispatcher, subject to a notification requirement.

The Commission also reviewed and rejected the Coast Guard's petition, which requested the Commission to apply E9-1-1 requirements to Mobile Satellite Services (MSS) and to issue a further notice of proposed rulemaking regarding the provision of emergency communications by MSS systems. In the MO&O, the Commission upholds its decision that MSS should be exempt from the 9-1-1 and E9-1-1 rules because adding specific regulatory requirements to MSS in this early stage of its growth may impede the development of service in ways that might reduce its ability to meet public safety needs. However, the Commission does urge the MSS industry and the public safety community to continue their efforts to develop and establish public safety standards along with international standards bodies.

Finally, although several petitioners asked the Commission to establish a specific cost recovery program (rather than the flexible alternative adopted in the E9-1-1 First Report and Order), the Commission declined to do so preferring to provide government entities with the option of keeping their existing cost recovery program in place or to create a cost recovery program that best suits the needs of all parties concerned in their locality.

FCC Final Order CC Docket 94-102, Part 4

IV. Report to Congress

We will submit a copy of this Supplementary Final Regulatory Flexibility Analysis, along with the MO&O, in a report to Congress pursuant to 5 U.S.C. § 801(a)(1)(A). A copy of this SFRFA will also be published in the Federal Register.

Separate Statement of Chairman William E. Kennard

*Revision of the FCC's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket 94-102, Memorandum Opinion and Order
December 1, 1997*

Today, the FCC reaffirmed its commitment to the rapid implementation of technologies needed to bring emergency help to wireless callers throughout the United States. In view of the importance of this action for public safety, I want to take this opportunity to state my commitment to ensuring that wireless callers are able to reach emergency services when they need them, and to ensuring that, as soon as possible, wireless 911 callers receive the same location and call-back benefits of enhanced 911 systems that wireline callers currently receive.

The Order the Commission adopted today takes a common sense approach to public safety. Making 911 and enhanced 911 service available to wireless callers will help emergency service providers respond to people in emergency situations as quickly and as effectively as possible. Under the Commission's Order, wireless carriers subject to the 911 rules will be required to transmit all wireless 911 calls (from both subscribers and non-subscribers) to emergency assistance providers or Public Safety Answering Points (PSAPs). When it comes to helping people in emergency situations, we have an obligation to do all that we can to make sure that there are no impediments to their receiving help. Assuring prompt delivery of emergency 911 calls from whatever source, without delay, best serves the public interest. I would also like to state my commitment to ensuring that persons with disabilities have the same access to telecommunications services, including emergency services, as the rest of the American people. While we were forced by the record in this proceeding to defer the obligation of wireless carriers to transmit 911 TTY calls made on digital systems, I call upon the industry to work with persons with disabilities and the organizations that represent them to resolve the technical problems that make this impossible at this time. I am concerned that the wireless industry has not yet been able to solve the problem of transmitting TTY calls over digital systems. I intend to monitor the efforts of the industry to work with persons with disabilities to ensure that sufficient progress is made to solve this problem. We all must do everything we can to make sure that no segment of our community is left behind when it comes to telecommunications and emergency services.

I am pleased that our order reaffirms our commitment to making enhanced 911 service available for wireless callers. In most places, emergency service teams have the ability to locate a 911 wireline caller and the ability to return that person's call. The Commission today reaffirms the deadlines for the rules for enhanced 911 services that will move us closer to making this a reality for wireless callers as well.

The rules we affirm respecting wireless E-911 move us closer to the day when wireless telephony will be viewed by consumers as a complete substitute for wireline telephony. Our rules are also technology-neutral, and encourage the development of efficient and effective methods for reporting the location of calls placed from wireless phones. This is important if we are to encourage innovation within the industry. I look forward to working with industry, public safety groups, consumer groups, and consumers on this issue.

Finally, the Order we adopt today finishes the task of putting in place the basic building blocks of 911 and enhanced 911 services for wireless calls. We now must turn our attention

to the issues that remain before us to refine the wireless 911 and enhanced 911 system, and that were raised in the Further Notice in this proceeding. One such issue of great importance to me is the issue of whether we should require that wireless 911 calls be sent to a PSAP by the wireless system with the strongest control channel signal. Supporters of this proposal have argued that it would provide a solution to situations where one carrier has a "blank spot" in its radio system but other carriers can provide coverage. I am committed to resolving the issues surrounding this proposal as soon as possible, so that a viable solution to the problem of "blank spots" can be implemented. Public safety demands that the industry work closely with public safety groups and consumer advocates to forge such a solution. I will make this Further Notice issue a priority, and will be closely monitoring efforts to forge technical solutions for effecting the "strongest signal" proposal.

Separate Statement of Commissioner Gloria Tristani

Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Memorandum Opinion and Order

December 1, 1997

One of the Commission's mandates under the Communications Act is "promoting the safety of life and property through the use of wire and radio communication." Today, we act on that mandate by assuring that all wireless phone users will have access to 911 emergency services without cumbersome code identification or subscriber validation procedures. In doing so, we recognize that ensuring direct access to 911 services is a public good benefitting all Americans, not simply those placing the call. I note that many wireless carriers have acted in the public interest and already implemented the practice of passing all wireless 911 calls.

At the same time we broaden access to 911, it concerns me that we must delay implementation, for digital systems, of our previously adopted requirement that carriers provide 911 access to customers using TTY or text telephone devices. Wireless telephones have become part of our nation's culture precisely because they are about access -- with mobility, they afford constant communication. This key characteristic also makes the wireless phone uniquely useful as a safety device. Indeed, many wireless subscribers cite safety as the main reason for purchasing a mobile telephone, and public safety organizations have observed that a large and ever-increasing number of 911 calls originate from a wireless telephone. I am concerned that by delaying the requirement of TTY compatibility for digital systems, we effectively deny access to those Americans who are deaf, hard-of-hearing, or who have speech disabilities.

In agreeing to a 12-month delay in these requirements, I am mindful that representatives of consumer groups and the deaf and hard-of-hearing community have joined with industry representatives to request additional time for implementation of the TTY requirement. The technical hindrances to TTY compatibility must be resolved through the cooperative efforts of carriers, consumer groups, TTY users, public safety agencies and equipment manufacturers. While I am pleased that this effort has begun, in the coming months I will be particularly attentive to its progress. I expect these groups will exert their best efforts in assuring that all Americans, equally, have access to the combined benefits of wireless telephony and public safety services.

