Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Wireless E911 Location Accuracy Requirements	)	PS Docket No. 07-114
	)	
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems	)	CC Docket No. 94-102
	)	
Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling	)	
	)	
911 Requirements for IP-Enabled Service Providers	)	WC Docket No. 05-196

NOTICE OF PROPOSED RULEMAKING

Adopted: May 31, 2007 **Released: June 1, 2007**

Section III.A Comment Date: [14 days after publication in the Federal Register]
Section III.A Reply Comment Date: [21 days after publication in the Federal Register]

Section III.B Comment Date: [60 days after publication in the Federal Register]
Section III.B Reply Comment Date: [90 days after publication in the Federal Register]

By the Commission: Chairman Martin and Commissioners Copps, Tate and McDowell issuing separate statements; Commissioner Adelstein concurring and issuing a statement.

I. INTRODUCTION

1. In this Notice of Proposed Rulemaking (Notice), we seek comment on several issues relating to wireless Enhanced 911 (E911) location accuracy and reliability requirements, in order to ensure that wireless E911 service meets the needs of public safety and the American people, while taking into account the evolution in the use of wireless devices and the further development of location technologies. First, in Section III.A below, we seek comment on our tentative conclusion that we should adopt a proposal by the Association of Public-Safety Communications Officials-International, Inc. (APCO) to clarify Section 20.18(h) of the Commission's rules, which specifies the standards for wireless E911 Phase II location accuracy and reliability, to require licensees subject to this rule to satisfy these standards at a geographical level defined by the coverage area of each respective local Public Safety Answering Point (PSAP).[1] We also grant APCO's request for an expedited consideration of its proposal,[2] and seek comment on whether, if we adopt this tentative conclusion, we should defer enforcement of

[1] *See* Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling, CC Docket No. 94-102, at 1 (filed Oct. 6, 2004) (APCO Request).

[2] *See* Letter from Robert M. Gurss, Director of Legal and Government Affairs, APCO, to Marlene Dortch, Secretary, FCC, at 1 (filed May 18, 2007).

Section 20.18(h) to allow wireless carriers to come into compliance. In Section III.B, we seek comment on a number of other tentative conclusions and proposals, including: (1) if we were to require licensees to meet the standards of Section 20.18(h) at the PSAP level, and decide to defer enforcement of Section 20.18(h) as so defined, how long we should defer enforcement; (2) the tentative conclusion to establish a single location accuracy requirement irrespective of technology; (3) how advances in location technologies and the use of hybrid technologies that employ both handset- and network-based technologies should impact our analysis; (4) whether a more stringent accuracy requirement should be adopted; (5) how and by what date to require compliance with a uniform and/or new accuracy requirement; (6) the methodology for accuracy compliance testing, particularly when wireless phones are used indoors and in rural areas; (7) the tentative conclusions to establish a mandatory schedule for accuracy testing and to require carriers to automatically provide accuracy data to PSAPs; (8) whether to require carriers to provide E911 location information when a wireless phone roams to an area that uses a different location technology or in which there are no automatic roaming agreements between carriers; and (9) the tentative conclusion that to the extent that an interconnected voice over Internet Protocol (VoIP) service may be used in more than one location, service providers must employ an automatic location technology that meets the same accuracy standards that apply to services provided by circuit-switched commercial mobile radio services (CMRS) carriers.

II. BACKGROUND

2. Section 20.18 sets forth the wireless 911 and E911 requirements. Licensees are required to provide E911 service only if the PSAP requests such service and meets other requirements.[3] Section 20.18(h) of the Commission's rules states that licensees subject to the wireless E911 requirements

> shall comply with the following standards for Phase II location accuracy and reliability: (1) For network-based technologies: 100 meters for 67 percent of calls, 300 meters for 95 percent of calls; (2) For handset-based technologies: 50 meters for 67 percent of calls, 150 meters for 95 percent of calls. (3) For the remaining 5 percent of calls, location attempts must be made and a location estimate must be provided to the appropriate PSAP.[4]

In the *First Report and Order*, in which the Commission first adopted accuracy requirements for the provision of E911 by wireless carriers, the Commission stated that "the level of accuracy achieved by [a] carrier shall be calculated based upon all 911 calls originated in a service area in which the carrier is required to supply Automatic Location Identification to PSAPs."[5] The *First Report and Order* required covered carriers "to demonstrate, upon request made by the PSAP, that its ALI [Automatic Location Identification] system performs in compliance with the requirements established in this Order."[6]

3. In April 2000, the Commission's Office of Engineering and Technology (OET) issued Bulletin No. 71 to provide guidance in determining whether wireless licensees required to supply location

[3] 47 C.F.R. § 20.18(j)(1). A PSAP is defined as a "point that has been designated to receive 911 calls and route them to emergency service personnel." 47 C.F.R. § 20.3. It follows then that in areas where there is no PSAP to receive 911 calls, the E911 rules would not apply.

[4] 47 C.F.R. § 20.18(h); *see also* Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, *Third Report and Order*, 14 FCC Rcd 17388, 17417-23 ¶¶ 66-77 (1999) (adopting the current version of Section 20.18(h)).

[5] Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, *First Report and Order*, 11 FCC Rcd 18676, 18712 ¶ 71 (1996) (*First Report and Order*).

[6] *Id.*

information to PSAPs comply with the Commission's accuracy requirements.[7] OET's Bulletin did not establish mandatory procedures, but stated that compliance with the guidelines set forth therein would establish "a strong presumption that appropriate means have been applied to ensure that an ALI system complies with the Commission's Rules."[8] The Bulletin described the Commission's expectations regarding location accuracy measurement and testing as follows:

> Reports of compliance testing should clearly define the subject geographical areas. Accuracy tests may be based on the coverage areas of local PSAPs that request Phase II deployment. It may be appropriate to subject a wireless service provider's entire advertised coverage area within a metropolitan area or similar region to testing . . . but these are typically large areas and initial ALI deployment may proceed more gradually. Thus, testing may initially cover an urban core and later extend to the response area of a local PSAP. Compliance may be verified for these sub-areas separately or in combination. However, the areas delineated for compliance testing should not overlap. It is unacceptable to include the same geographic sub-area in two or more test areas, especially if the sub-area is relatively undemanding for the location technology.[9]

4. On October 5, 2004, APCO filed a request for declaratory ruling seeking clarification of the geographic area over which wireless carriers must provide the levels of location accuracy required under the Commission's rules, as well as the degree to which carriers must provide confidence and uncertainty data on the level of location accuracy to PSAPs.[10] On February 4, 2005, APCO supplemented its request to indicate that metropolitan statistical areas (MSAs) and rural statistical areas (RSAs) may also serve as appropriate boundaries within which to measure and test location accuracy.[11] APCO also proposed that the Commission require compliance testing every two years.[12]

III. NOTICE OF PROPOSED RULEMAKING

A. Geographic Area Required for Compliance with Section 20.18(h)

5. Consistent with APCO's proposal, we tentatively conclude that Section 20.18(h) should be clarified to require carriers to meet Phase II accuracy requirements at the PSAP service area level. Measuring and testing location accuracy over geographic areas larger than PSAP service areas would appear to be directly contrary to the interests of public safety and homeland security. By averaging accuracy over a vast service area, a carrier can assert that it satisfies the requirements of Section 20.18(h) even when it is not meeting our accuracy requirements in substantial segments of its service area. This practice, as APCO correctly notes, "could leave significant portions of the country with virtually useless

[7] OET Bulletin No. 71, Guidelines for Testing and Verifying the Accuracy of Wireless E911 Location Systems (Apr. 12, 2000) at 2, *available at* http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet71/oet71.pdf.

[8] *Id.*

[9] *Id.*; *see also, e.g.*, Cingular Consent Decree, File No. EB-02-TS-003, 18 FCC Rcd 11746, 11751 n.10 (2003) ("OET Bulletin No. 71 . . . states that accuracy testing may be based on, among other things, the coverage areas of local PSAPs that request Phase II deployment or the wireless carrier's entire advertised coverage area within a metropolitan area.").

[10] APCO Request at 1.

[11] Association of Public-Safety Communications Officials-International, Inc. Supplement to Request for Declaratory Ruling, CC Docket No. 94-102, at 1 (filed Oct. 6, 2004) (APCO Supplement).

[12] *Id.*

levels of E9-1-1 accuracy, essentially nullifying Phase II [E911 requirements] in those areas."[13] A PSAP that requests Phase II service should be able to expect location information from carriers that meets our accuracy requirements within the PSAP's service area.[14] When carriers are incapable of transmitting such location information to the PSAP, emergency response may be delayed and, in some cases, may be impossible until another source of location information is provided. At a minimum, these delays waste limited public safety resources. At worst, inadequate location information can result in a loss of life that might otherwise have been prevented.

6. At its core, the goal of our E911 rules is to provide meaningful automatic location identification information that permits first responders to render aid, regardless of the technology or platform employed. While measuring location accuracy at the PSAP level may present challenges to both carriers and technology providers, the public interest demands that carriers and technology providers strive to ensure that when wireless callers dial 911, emergency responders are provided with location information that enables them to reach the site of the emergency as quickly as possible. At the same time, we recognize that many carriers are not generally measuring and testing location accuracy at the PSAP level, and that there is some disagreement over the intended meaning of Section 20.18(h).[15] In this regard, some parties have argued that we should solicit comment on whether Section 20.18(h) should require compliance at the PSAP level, rather than simply issuing an order to this effect.[16] Although Section 20.18(h) does not expressly state that accuracy must be measured and tested at the PSAP level, we note that the Commission has never suggested that it is appropriate to average accuracy results over an entire state, much less over a multi-state carrier's entire service area.[17] As a result, while we are not convinced that the avenue of clarification is precluded, out of an abundance of caution, and to ensure that we have full public input, we now seek comment on APCO's proposal, and grant its request for expedited consideration. Further, should we adopt our tentative conclusion to require compliance with Section 20.18(h) at the PSAP level, we seek comment on whether we should defer enforcement of Section 20.18(h) as so defined.

7. As noted on the first page of this Notice, we have established separate comment due dates for the proposals set forth in this Section III.A, and Section III.B, below. Specifically, we will require the filing of initial comments on the proposals in this Section III.A to be due fourteen days after publication of this Notice in the Federal Register, and reply comments to be due twenty-one days after publication. For the proposals for which we seek comment in Section III.B below, initial comments and reply comments will be due sixty days, and ninety days, respectively, following publication of this Notice in the Federal Register. We have established the comment periods in this manner because the required geographic area over which compliance with the location accuracy requirements of Section 20.18(h) will be measured is of primary importance to our resolution of the issues that follow in Section III.B. Accordingly, the record developed in response to the proposals in Section III.A will serve to inform subsequent comments submitted in response to the issues raised in Section III.B.

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[13] *Id.* at 4; *see also* Joint Statement of International Association of Fire Chiefs, National Association of Counties, and National League of Cities, CC Docket No. 94-102 (filed July 20, 2005); Letter from Gregory T. Riddle, Executive Director, West Suburban Consolidated Dispatch Center, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 94-102 (filed Feb. 14, 2005); Comments of Public Safety Communication Division, Orange County, Florida, CC Docket No. 94-102 (filed Mar. 14, 2005) (all supporting APCO's Request).

[14] Without that expectation, a PSAP's incentive to become Phase II capable would be significantly reduced.

[15] *See* APCO Request at 3-4.

[16] *See* Letter from Thomas Coates, Dobson Communications Corp., David Nace, Rural Cellular Association, Thomas Sugrue, T-Mobile USA, Inc., and John Scott, III, Verizon Wireless, to Marlene Dortch, Secretary, FCC, CC Docket No. 94-102 (filed May 8, 2007).

[17] At most, OET has suggested that averaging accuracy results over a metropolitan area may be appropriate in some circumstances. *See supra* para. 3.

B. Other Wireless E911 and VoIP 911 Accuracy Issues

8. *Deferred Enforcement of Section 20.18(h).* In Section III.A above, we tentatively conclude to require compliance with Section 20.18(h) at the PSAP level, and seek comment on whether we should defer enforcement of Section 20.18(h) as so defined. The record on these issues will be developed in advance of receiving comments on the proposals contained in this Section III.B. Accordingly, as an initial matter in this Section III.B, and assuming, based on the record developed in response to the proposals set forth in Section III.A, we require carriers to achieve compliance with Section 20.18(h) at the PSAP level yet also determine to defer enforcement, we seek comment on how long we should defer enforcement. Specifically, what reasonable amount of time should we permit carriers to achieve compliance at the PSAP level? What specific tasks will be necessary for carriers to come into compliance with current accuracy requirements on a PSAP-level basis? Should the amount of time vary based on certain factors? What factors should be considered? Should benchmarks be established?

9. *Single Location Accuracy Standard.* We seek comment on how to best ensure that PSAPs receive location information that is as accurate as possible for all wireless E911 calls. In this regard, we observe that much has changed since the Commission established the current location accuracy requirements. For example, wireless services have advanced to the point where many people rely on them for communications wherever they may be, whether at home or in the workplace, indoors or outdoors, or in an urban, suburban or rural area. Many people rely on wireless phones in place of wired landline phones. We also observe that location technologies have continued to advance. It is our objective to ensure that PSAPs receive reliable and accurate location information irrespective of the location of the caller or the technology that may be used.

10. As noted above, the Commission established different location accuracy requirements for network-based and handset-based location technologies. It is not clear that this bifurcated approach continues to best serve the public interest. Consumers cannot reasonably be expected to recognize the implications of the location technology used by their carrier, nor understand why one carrier would provide better reliability in an emergency than another. The bifurcated accuracy standards also mean that public safety officials must adjust their expectations about the accuracy of the information they receive based on the technology used by the carrier. We also note that the current requirement is not technology neutral because it provides a lower standard for only one technology. It may also result in ambiguity when a carrier uses an approach that includes both network- and handset-based technologies. Accordingly, we tentatively conclude that the public interest would be better served by a single location accuracy requirement rather than the current separate accuracy requirements for network- and handset-based technologies. We invite comment on this tentative conclusion.

11. *Location Technologies.* We recognize that several factors must be considered in establishing a single location accuracy requirement. We seek to develop a full understanding of the capabilities and limitations of existing location technologies, as well as any new technologies that may provide improvements in location accuracy. We invite parties to comment on the various location technologies that are available to provide accurate E911 location information and their capabilities. Do some technologies perform better under certain circumstances? What factors influence how well a particular accuracy solution performs? How best can accuracy be improved in both the short term and the future? Can carriers employ a combination of handset-based and network-based location technologies (a hybrid solution),[18] rather than employing one or the other, to achieve improved location accuracies?

[18] Hybrid solutions combine network-based equipment with handset-based location technologies to provide more robust methods of determining the location of a caller through the use of multiple inputs. For example, Verizon Wireless has deployed an assisted-GPS (A-GPS) system combined with an advanced forward link trilateration (A-FLT) system. *See* Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency

(continued....)

Would hybrid technologies provide greater location accuracy than either network-based or handset-based solutions alone? Should we require the use of such technologies? What has been the experience of PSAPs that receive Phase II service? We also ask parties to comment on any other potential revisions to our current location accuracy requirements that could help carriers improve location accuracy.

12. *Accuracy Standard.* Assuming the Commission adopts a uniform accuracy standard, what should that standard be? We are inclined to require that the uniform accuracy standard be at least as stringent as that currently in place for handset-based technologies, *i.e.*, 50 meters for 67 percent of calls, 150 meters for 95 percent of calls. Is this standard still appropriate, given the advances in location technology that have occurred since the Commission adopted the current location accuracy standards in 1999? Should the Commission adopt more stringent accuracy requirements? Should the standard now include additional information, such as elevation? Should all classes of carriers be held to this uniform standard, and, if so, by what date should they be required to come into compliance with a more stringent, uniform accuracy requirement? What other measures should be taken to improve location accuracy?

13. *Compliance Timeframes.* We invite comment on any requirements the Commission should adopt to ensure compliance with our location accuracy rules. We already have asked at the outset of this Section III.B for comment on what amount of time is reasonable to allow carriers to come into compliance with current accuracy requirements at the PSAP level. Assuming we adopt a uniform location accuracy requirement, what is the appropriate date by which to require compliance with such requirement at the PSAP level? What action should the Commission take relative to systems that have been deployed and meet the current requirements at the PSAP level, but may not meet whatever requirements we may adopt on a going forward basis?

14. *Compliance Testing.* In addition, we seek comment on what methodology carriers should employ to verify compliance, both initially and during ongoing testing. Should OET Bulletin No. 71, which provides guidelines for testing and verifying the accuracy of wireless E911 location systems, be used to verify compliance? If so, what revisions to the Bulletin would be appropriate? For example, should the Bulletin specify a certain level of indoor versus outdoor testing in order to reflect the proportion of indoor versus outdoor use? What mix of equipment (*i.e.*, carrier-provided handsets, base stations, or other facilities) should be employed for accuracy testing? How many test points within a PSAP service area should be required or considered sufficient and how should they be distributed? What special considerations, if any, should be established for tests in rural areas? Are there other testing parameters that should be imposed to ensure that testing accurately assesses consumer experiences in using a carrier's E911 service?[19] We seek comment on these and any other related questions regarding the appropriate testing methodology or standards. Should OET Bulletin No. 71, which is currently only a guideline, be made mandatory? Alternatively, should the Commission place the measurement procedure in its rules?

15. *Schedule for Testing.* We tentatively conclude that we will establish a mandatory schedule for accuracy testing, and seek comment on the appropriate schedule for such testing. Should we require testing every two years, as APCO has suggested,[20] or should we adopt a different schedule? As Phase II service is extended into new areas, at what point should carriers be required to conduct

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Calling Systems, Request for Waiver by Verizon Wireless, CC Docket No. 94-102, *Order*, 16 FCC Rcd 18364, 18366, 18370 ¶¶ 8, 17 (2001).

[19] *See, e.g.*, Association of Public Safety Communications Officials-International, *An Assessment of the Value of Location Data Delivered to PSAPs with Enhanced Wireless 911 Calls (Project LOCATE)*, Final Report, April 2007, CC Docket No. 94-102 (filed Apr. 10, 2007).

[20] APCO Supplement at 4.

compliance testing? Should carriers be required to file compliance and maintenance testing data with the Commission, one or more national public safety organizations (such as NENA, APCO, and NASNA), local PSAPs, or some combination of these entities? Should the Commission treat such information in a confidential manner? Should carriers be required to provide consolidated performance statistics to illustrate accuracy levels for various topologies or for other reasons?

16. *Accuracy Data.* We also tentatively conclude that carriers should automatically provide accuracy data to PSAPs.[21] How and in what format should that data be transferred to each applicable PSAP? How often should it be reported or provided? Should it be provided as part of the call information/ALI? What is the appropriate level of granularity for such accuracy data?

17. *911 Calls Placed When Roaming.* We are concerned that a wireless caller whose carrier employs one type of location technology may not be provided Phase II service at all when roaming on the network of another carrier that relies on a different technology, or when there is no roaming agreement between carriers using compatible technologies. How can these issues be addressed? Should we require carriers to ensure delivery of location information to PSAPs for every call handled on their networks, including calls made by customers of another carrier ("roaming calls") that has deployed a different technology in its own network or with whom the carrier handling the call has no automatic roaming relationship? While we believe there are benefits to applying a performance-based requirement for location accuracy, we invite comment as to whether we should consider mandating a particular technology that achieves the required accuracy. If so, which technology?

18. *Interconnected VoIP Services.* Finally, we seek comment on whether and to what extent providers of interconnected VoIP services should be required to provide ALI, and whether and to what extent they should be subject to the same location accuracy requirements that apply to certain services provided by circuit-switched CMRS carriers under Section 20.18 of the Commission's rules.[22] We tentatively conclude that to the extent that an interconnected VoIP service may be used in more than one location, providers must employ an automatic location technology that meets the same accuracy standards that apply to those CMRS services.[23] In light of this tentative conclusion, we ask that commenters provide input on all issues raised in this Notice as though the accuracy requirements for those CMRS services would apply to all interconnected VoIP services that can be used in more than one location. More generally, we invite commenters to update the record in the Commission's VoIP 911 proceeding

[21] *See* APCO Request at 5-6; APCO Supplement at 4; *see also* Wireless 911 Board of North Carolina Petition for Declaratory Ruling and/or Clarification, CC Docket No. 94-102 (filed Jan. 31, 2005) (requesting a Commission ruling requiring that uncertainty and confidence data be included in the ALI that wireless carriers deliver to PSAPs).

[22] "Interconnected VoIP services" are services that (1) enable real-time, two-way voice communications; (2) require a broadband connection from the user's location; (3) require IP-compatible customer premises equipment; and (4) permit users to receive calls from and terminate calls to the public switched telephone network. *See* IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers, WC Docket Nos. 04-36, 05-196, *First Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd 10245, 10257-58 ¶ 24 (2005), *aff'd*, *Nuvio Corp. v. FCC*, 473 F.3d 302 (D.C. Cir. 2006) (*VoIP 911 Order*); *see also id.* at 10276-77 ¶ 57 (seeking comment on whether and how interconnected VoIP service providers might be able to provide location information automatically). Interconnected VoIP service providers are not subject to Section 20.18 of the Commission's rules; the 911 obligations that apply to interconnected VoIP services are set forth in Part 9. *See* 47 C.F.R. §§ 9.1-9.5. *See* Service Rules for the 698-746, 747-762 and 777-792 MHz Bands et al., WT Docket No. 06-150 et al., *Report and Order and Further Notice of Proposed Rulemaking*, FCC 07-72, paras. 129-136 (rel. Apr. 27, 2007).

[23] *See VoIP 911 Order*, 20 FCC Rcd at 10259-60, ¶ 25 & n.80 (contrasting "fixed" VoIP services, which can be used at only one location, with "portable" VoIP services, which can be used from any broadband connection).

with any new information or arguments they believe to be relevant to the questions raised in the June 2005 *Notice of Proposed Rulemaking* relating to location issues.[24]

19. *Commission Reports.* We expect that the comments filed by carriers, technology providers, public safety entities and other stakeholders will provide significant data on the ability of current technologies to meet location criteria and the development of new technologies to increase location accuracy. There are, however, at least two areas that warrant additional evaluation by Commission engineers and staff: (1) methods for carriers to improve in-building location accuracy; and (2) the use of hybrid technology solutions to increase location accuracy and address shortcomings of current technologies. We intend to examine both issues, and provide reports on our efforts to the public. However, we recognize the need to proceed quickly and efficiently with respect to these evaluations, and intend to initiate and complete them without unduly delaying the issuance of a final order.

IV. PROCEDURAL MATTERS

A. *Ex Parte* Presentations

20. This proceeding shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[25] Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentations and not merely a listing of the subjects discussed. More than a one- or two-sentence description of the views and arguments presented is generally required.[26] Other rules pertaining to oral and written presentations are set forth in Section 1.1206(b) of the Commission's rules as well.

B. Comment Filing Procedures

21. Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. All filings related to this Notice of Proposed Rulemaking should refer to **PS Docket No. 07-114 and WC Docket No. 05-196**. We hereby incorporate the comments and *ex parte* presentations related to this Notice of Proposed Rulemaking that were previously filed in CC Docket No. 94-102 into PS Docket No. 07-114. Commenters need not resubmit material previously filed in that proceeding. Comments may be filed using: (1) the Commission's Electronic Comment Filing System (ECFS), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies. *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24,121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://www.fcc.gov/cgb/ecfs or the Federal eRulemaking Portal: http://www.regulations.gov. Filers should follow the instructions provided on the website for submitting comments.
    - For ECFS filers, if multiple dockets or rulemaking numbers appear in the caption of this proceeding, filers must transmit one electronic copy of the comments for each docket or rulemaking number referenced in the caption. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send and e-mail

[24] *See id.* at 10276-77 ¶ 57.

[25] 47 C.F.R. §§ 1.1200, 1.1206; Amendment of 47 C.F.R. § 1.1200 *et seq.* Concerning Ex Parte Presentations in Commission Proceedings, GC Docket No. 95-21, *Report and Order*, 12 FCC Rcd 7348 (1997).

[26] 47 C.F.R. § 1.1206(b)(2).

to ecfs@fcc.gov, and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.

- Paper Filers: Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

  Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

  - The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, DC 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

  - Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

  - U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, S.W., Washington, DC 20554.

22. Comments and reply comments and any other filed documents in this matter may be obtained from Best Copy and Printing, Inc., in person at 445 12th Street, S.W., Room CY-B402, Washington, DC 20554, via telephone at (202) 488-5300, via facsimile at (202) 488-5563, or via e-mail at FCC@BCPIWEB.COM. The pleadings will be also available for public inspection and copying during regular business hours in the FCC Reference Information Center, Room CY-A257, 445 12th Street, S.W., Washington, DC 20554, and through the Commission's Electronic Filing System (ECFS) accessible on the Commission's Web site, http://www.fcc.gov/cgb/ecfs.

23. To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY).

24. Commenters who file information that they believe is should be withheld from public inspection may request confidential treatment pursuant to Section 0.459 of the Commission's rules. Commenters should file both their original comments for which they request confidentiality and redacted comments, along with their request for confidential treatment. Commenters should not file proprietary information electronically. *See* Examination of Current Policy Concerning the Treatment of Confidential Information Submitted to the Commission, *Report and Order*, 13 FCC Rcd 24816 (1998), *Order on Reconsideration*, 14 FCC Rcd 20128 (1999). Even if the Commission grants confidential treatment, information that does not fall within a specific exemption pursuant to the Freedom of Information Act (FOIA) must be publicly disclosed pursuant to an appropriate request. *See* 47 C.F.R. § 0.461; 5 U.S.C. § 552. We note that the Commission may grant requests for confidential treatment either conditionally or unconditionally. As such, we note that the Commission has the discretion to release information on public interest grounds that does fall within the scope of a FOIA exemption.

C. Initial Regulatory Flexibility Analysis

25. Pursuant to the Regulatory Flexibility Act (RFA),[27] the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the proposals considered in this Notice. The text of the IRFA is set forth in the Appendix. Written public comments are requested on this IRFA. Comments must be filed in accordance with the same filing deadlines for comments on the Notice, and they should have a separate and distinct heading designating them as responses to the IRFA. The Commission will send a copy of the Notice, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.[28]

D. Initial Paperwork Reduction Act of 1995 Analysis

26. This document does not contain proposed information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified "information collection burden for small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. § 3506(c)(4).

V. ORDERING CLAUSES

27. Accordingly, IT IS ORDERED, pursuant to Sections 4(i) and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 332, that this Notice of Proposed Rulemaking IS ADOPTED.

28. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

29. IT IS FURTHER ORDERED that pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments on Section III.A of this Notice of Proposed Rulemaking on or before 14 days after publication in the Federal Register, and reply comments on or before 21 days after publication in the Federal Register, and interested parties may file comments on Section III.B of this Notice of Proposed Rulemaking on or before 60 days after publication in the Federal Register, and reply comments on or before 90 days after publication in the Federal Register.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

[27] *See* 5 U.S.C. § 603. The RFA has been amended by the Contract with America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

[28] 5 U.S.C. § 603(a).

APPENDIX

Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in this Notice of Proposed Rulemaking (Notice). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the first page of the Notice. The Commission will send a copy of the Notice, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).[2] In addition, the Notice and IRFA (or summaries thereof) will be published in the Federal Register.[3]

A. Need for, and Objectives of, the Proposed Rules

2. In the Notice, we seek comment on how to best ensure that public safety answering points (PSAPs) receive location information that is as accurate as possible for all wireless E911 calls. The Notice also asks whether and to what extent providers of interconnected voice over Internet Protocol (VoIP) services should be required to provide automatic location identification (ALI), and whether they should be subject to the same location accuracy requirements as providers of circuit-switched commercial mobile radio services (CMRS). The objective is to ensure that PSAPs receive reliable and accurate location information irrespective of the location of the caller or the technology that may be used.

3. The Notice tentatively concludes that wireless carriers must comply with section 20.18(h) of the Commission's rules, which sets forth the standards for Phase II wireless E911 location accuracy and reliability, at the PSAP service area level. This tentative conclusion responds to a petition for declaratory ruling filed by the Association of Public-Safety Communications Officials-International, Inc. (APCO) expressing concern that by measuring and testing location accuracy over geographic areas larger than PSAP service areas, a wireless carrier can assert that it satisfies the requirements of section 20.18(h) even when it is not meeting the location accuracy requirements in substantial segments of its service area. In recognition of the fact that many carriers are not currently measuring and testing location accuracy at the PSAP level, the Notice seeks comment on whether – and for what length of time – the Commission should defer enforcement of section 20.18(h) if it adopts the tentative conclusion to require compliance at the PSAP level.[4]

4. The Notice explores other possible ways to improve wireless E911 location accuracy and reliability. The item tentatively concludes that the public interest would be better served by a single, technology-neutral location accuracy requirement for wireless E911 service, rather than the separate accuracy requirements for network-based and handset-based location technologies that are currently in place. In light of this tentative conclusion, the Notice seeks comment on what an appropriate uniform accuracy standard would be, what level of accuracy is possible with current location technologies, whether hybrid solutions that employ both network-based and handset-based location technologies can produce improved location accuracy, and how long carriers should be given to come into compliance if the Commission adopts a new, uniform location accuracy standard.[5]

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[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 – 612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *See* 5 U.S.C. § 603(a).

[3] *See* 5 U.S.C. § 603(a).

[4] *See* Notice at paras. 5-8.

[5] *See id.* at paras. 9-12.

5. The Notice tentatively concludes that the Commission will establish a mandatory schedule for accuracy testing, and that carriers should automatically provide accuracy data to PSAPs. The Notice seeks comment on these tentative conclusions, and also seeks comment on whether the Commission should require wireless carriers to deliver location information for "roaming" 911 calls placed by another carrier's customers.[6]

6. With respect to interconnected VoIP, the Notice seeks comment on whether and to what extent providers of interconnected VoIP services should be required to provide automatic location identification, or ALI, and whether they should be subject to the same location accuracy requirements as providers of circuit-switched CMRS. The Notice tentatively concludes that to the extent that an interconnected VoIP service may be used in more than one location, providers must employ an automatic location technology that meets the same accuracy standards that apply to CMRS carriers.[7]

B. Legal Basis

7. The legal basis for any action that may be taken pursuant to this Notice is contained in Sections 4(i) and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 332.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

8. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules.[8] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[9] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[10] A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[11]

9. Nationwide, there are a total of approximately 22.4 million small businesses, according to SBA data.[12] A "small organization" is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[13] Nationwide, as of 2002, there were approximately 1.6 million small organizations.[14] The term "small governmental jurisdiction" is defined generally as "governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[15] Census Bureau data for 2002 indicate that there were 87,525 local

[6] *See id.* at paras. 15-17.

[7] *See id.* at para. 18.

[8] 5 U.S.C. §§ 603(b)(3), 604(a)(3).

[9] 5 U.S.C. § 601(6).

[10] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such terms which are appropriate to the activities of the agency and publishes such definitions(s) in the Federal Register."

[11] 15 U.S.C. § 632.

[12] *See* SBA, Programs and Services, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

[13] 5 U.S.C. § 601(4).

[14] Independent Sector, The New Nonprofit Almanac & Desk Reference (2002).

[15] 5 U.S.C. § 601(5).

governmental jurisdictions in the United States.[16] We estimate that, of this total, 84,377 entities were "small governmental jurisdictions."[17] Thus, we estimate that most governmental jurisdictions are small.

1. Telecommunications Service Entities

a. Wireless Telecommunications Service Providers

10. Below, for those services subject to auctions, we note that, as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Also, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated.

11. *Cellular Licensees.* The SBA has developed a small business size standard for wireless firms within the broad economic census category "Cellular and Other Wireless Telecommunications."[18] Under this SBA category, a wireless business is small if it has 1,500 or fewer employees. For the census category of Cellular and Other Wireless Telecommunications, Census Bureau data for 2002 show that there were 1,397 firms in this category that operated for the entire year.[19] Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.[20] Thus, under this category and size standard, the great majority of firms can be considered small. Also, according to Commission data, 437 carriers reported that they were engaged in the provision of cellular service, Personal Communications Service (PCS), or Specialized Mobile Radio (SMR) Telephony services, which are placed together in the data.[21] We have estimated that 260 of these are small, under the SBA small business size standard.[22]

12. *Common Carrier Paging.* The SBA has developed a small business size standard for wireless firms within the broad economic census category, "Cellular and Other Wireless Telecommunications."[23] Under this SBA category, a wireless business is small if it has 1,500 or fewer employees. For the census category of Paging, Census Bureau data for 2002 show that there were 807 firms in this category that operated for the entire year.[24] Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.[25] Thus, under this category and associated small business size standard, the majority of firms can be considered small. In

[16] U.S. Census Bureau, Statistical Abstract of the United States: 2006, Section 8, page 272, Table 415.

[17] We assume that the villages, school districts, and special districts are small, and total 48,558. *See* U.S. Census Bureau, Statistical Abstract of the United States: 2006, section 8, page 273, Table 417. For 2002, Census Bureau data indicate that the total number of county, municipal, and township governments nationwide was 38,967, of which 35,819 were small. *Id.*

[18] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

[19] U.S. Census Bureau, 2002 Economic Census, Subject Series: "Information," Table 5, Employment Size of Firms for the United States: 2002, NAICS code 517212 (issued November 2005).

[20] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is firms with "1000 employees or more."

[21] "Trends in Telephone Service" at Table 5.3.

[22] *Id.*

[23] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

[24] U.S. Census Bureau, 2002 Economic Census, Subject Series: "Information," Table 5, Employment Size of Firms for the United States: 2002, NAICS code 517211 (issued November 2005).

[25] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is firms with "1000 employees or more."

the Paging *Third Report and Order*, we developed a small business size standard for "small businesses" and "very small businesses" for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[26] A "small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years. Additionally, a "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years.[27] The SBA has approved these small business size standards.[28] An auction of Metropolitan Economic Area licenses commenced on February 24, 2000, and closed on March 2, 2000.[29] Of the 985 licenses auctioned, 440 were sold. Fifty-seven companies claiming small business status won. Also, according to Commission data, 375 carriers reported that they were engaged in the provision of paging and messaging services.[30] Of those, we estimate that 370 are small, under the SBA-approved small business size standard.[31]

13. *Wireless Telephony*. Wireless telephony includes cellular, personal communications services (PCS), and specialized mobile radio (SMR) telephony carriers. As noted earlier, the SBA has developed a small business size standard for "Cellular and Other Wireless Telecommunications" services.[32] Under that SBA small business size standard, a business is small if it has 1,500 or fewer employees.[33] According to Commission data, 445 carriers reported that they were engaged in the provision of wireless telephony.[34] We have estimated that 245 of these are small under the SBA small business size standard.

14. *Broadband Personal Communications Service*. The broadband Personal Communications Service (PCS) spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission defined "small entity" for Blocks C and F as an entity that has average gross revenues of $40 million or less in the three previous calendar years.[35] For Block F, an additional classification for "very small business" was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years."[36] These standards defining "small entity" in the context of broadband

[26] *Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service*, PR Docket No. 89-552, Third Report and Order and Fifth Notice of Proposed Rulemaking, 12 FCC Rcd 10943, 11068-70, paras. 291-295, 62 FR 16004 (Apr. 3, 1997).

[27] *See* Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC, from A. Alvarez, Administrator, SBA (Dec. 2, 1998) (SBA Dec. 2, 1998 Letter).

[28] *Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems*, Memorandum Opinion and Order on Reconsideration and Third Report and Order, 14 FCC Rcd 10030, paras. 98-107 (1999).

[29] *Id.* at 10085, para. 98.

[30] "Trends in Telephone Service" at Table 5.3.

[31] *Id.*

[32] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

[33] *Id.*

[34] "Trends in Telephone Service" at Table 5.3.

[35] *See Amendment of Parts 20 and 24 of the Commission's Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap*, WT Docket No. 96-59, Report and Order, 11 FCC Rcd 7824, 61 FR 33859 (July 1, 1996) (*PCS Order*); *see also* 47 C.F.R. § 24.720(b).

[36] *See PCS Order*, 11 FCC Rcd 7824.

PCS auctions have been approved by the SBA.[37] No small businesses, within the SBA-approved small business size standards 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.[38] On March 23, 1999, the Commission re-auctioned 347 C, D, E, and F Block licenses. There were 48 small business winning bidders. On January 26, 2001, the Commission completed the auction of 422 C and F Broadband PCS licenses in Auction No. 35. Of the 35 winning bidders in this auction, 29 qualified as "small" or "very small" businesses. Subsequent events, concerning Auction 35, including judicial and agency determinations, resulted in a total of 163 C and F Block licenses being available for grant.

15. *Narrowband Personal Communications Services.* To date, two auctions of narrowband personal communications services (PCS) licenses have been conducted. For purposes of the two auctions that have already been held, "small businesses" were entities with average gross revenues for the prior three calendar years of $40 million or less. Through these auctions, the Commission has awarded a total of 41 licenses, out of which 11 were obtained by small businesses. To ensure meaningful participation of small business entities in future auctions, the Commission has adopted a two-tiered small business size standard in the *Narrowband PCS Second Report and Order*.[39] A "small business" is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $40 million. A "very small business" is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $15 million. The SBA has approved these small business size standards.[40] In the future, the Commission will auction 459 licenses to serve Metropolitan Trading Areas (MTAs) and 408 response channel licenses. There is also one megahertz of narrowband PCS spectrum that has been held in reserve and that the Commission has not yet decided to release for licensing. The Commission cannot predict accurately the number of licenses that will be awarded to small entities in future auctions. However, four of the 16 winning bidders in the two previous narrowband PCS auctions were small businesses, as that term was defined. The Commission assumes, for purposes of this analysis that a large portion of the remaining narrowband PCS licenses will be awarded to small entities. The Commission also assumes that at least some small businesses will acquire narrowband PCS licenses by means of the Commission's partitioning and disaggregation rules.

16. *Rural Radiotelephone Service.* The Commission has not adopted a size standard for small businesses specific to the Rural Radiotelephone Service.[41] A significant subset of the Rural Radiotelephone Service is the Basic Exchange Telephone Radio System (BETRS).[42] The Commission uses the SBA's small business size standard applicable to "Cellular and Other Wireless Telecommunications," *i.e.*, an entity employing no more than 1,500 persons.[43] There are approximately 1,000 licensees in the Rural Radiotelephone Service, and the Commission estimates that there are 1,000

[37] *See, e.g., Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, PP Docket No. 93-253, Fifth Report and Order, 9 FCC Rcd 5332, 59 FR 37566 (July 22, 1994).

[38] FCC News, Broadband PCS, D, E and F Block Auction Closes, No. 71744 (rel. Jan. 14, 1997); *see also Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licenses*, WT Docket No. 97-82, Second Report and Order, 12 FCC Rcd 16436, 62 FR 55348 (Oct. 24, 1997).

[39] *Amendment of the Commission's Rules to Establish New Personal Communications Services, Narrowband PCS*, Docket No. ET 92-100, Docket No. PP 93-253, Second Report and Order and Second Further Notice of Proposed Rulemaking, 15 FCC Rcd 10456, 65 FR 35875 (June 6, 2000).

[40] *See* SBA Dec. 2, 1998 Letter.

[41] The service is defined in section 22.99 of the Commission's Rules, 47 C.F.R. § 22.99.

[42] BETRS is defined in sections 22.757 and 22.759 of the Commission's Rules, 47 C.F.R. §§ 22.757 and 22.759.

[43] 13 C.F.R. § 121.201, NAICS code 517212.

or fewer small entity licensees in the Rural Radiotelephone Service that may be affected by the rules and policies adopted herein.

17. *Air-Ground Radiotelephone Service.* The Commission has not adopted a small business size standard specific to the Air-Ground Radiotelephone Service.[44] We will use SBA's small business size standard applicable to "Cellular and Other Wireless Telecommunications," *i.e.*, an entity employing no more than 1,500 persons.[45] There are approximately 100 licensees in the Air-Ground Radiotelephone Service, and we estimate that almost all of them qualify as small under the SBA small business size standard.

18. *Offshore Radiotelephone Service.* This service operates on several UHF television broadcast channels that are not used for television broadcasting in the coastal areas of states bordering the Gulf of Mexico.[46] There are presently approximately 55 licensees in this service. We are unable to estimate at this time the number of licensees that would qualify as small under the SBA's small business size standard for "Cellular and Other Wireless Telecommunications" services.[47] Under that SBA small business size standard, a business is small if it has 1,500 or fewer employees.[48]

b. Wireline Carriers and Service Providers

19. The SBA has developed a small business size standard for wireline firms within the broad economic census category, "Wired Telecommunications Carriers."[49] Under this category, the SBA deems a wireline business to be small if it has 1,500 or fewer employees. Census Bureau data for 2002 show that there were 2,432 firms in this category that operated for the entire year.[50] Of this total, 2,395 firms had employment of 999 or fewer employees, and 37 firms had employment of 1,000 employees or more.[51] Thus, under this category and associated small business size standard, the majority of firms can be considered small.

20. We have included small incumbent local exchange carriers in this present RFA analysis. As noted above, a "small business" under the RFA is one that, *inter alia*, meets the pertinent small business size standard (*e.g.*, a telephone communications business having 1,500 or fewer employees), and "is not dominant in its field of operation."[52] The SBA's Office of Advocacy contends that, for RFA purposes, small incumbent local exchange carriers are not dominant in their field of operation because any such dominance is not "national" in scope.[53] We have therefore included small incumbent local

[44] The service is defined in section 22.99 of the Commission's rules, 47 C.F.R. § 22.99.

[45] 13 C.F.R. § 121.201, NAICS codes 517212.

[46] This service is governed by Subpart I of Part 22 of the Commission's rules. *See* 47 C.F.R. §§ 22.1001-22.1037.

[47] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

[48] *Id.*

[49] 13 C.F.R. § 121.201, NAICS code 517110.

[50] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization," Table 5, NAICS code 517110 (issued Nov. 2005).

[51] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[52] 15 U.S.C. § 632.

[53] Letter from Jere W. Glover, Chief Counsel for Advocacy, SBA, to William E. Kennard, Chairman, FCC (May 27, 1999). The Small Business Act contains a definition of "small-business concern," which the RFA incorporates into its own definition of "small business." *See* 15 U.S.C. § 632(a) (Small Business Act); 5 U.S.C. § 601(3) (RFA). SBA regulations interpret "small business concern" to include the concept of dominance on a national basis. *See* 13 C.F.R. § 121.102(b).

exchange carriers in this RFA analysis, although we emphasize that this RFA action has no effect on Commission analyses and determinations in other, non-RFA contexts.

21. *Incumbent Local Exchange Carriers (LECs).* Neither the Commission nor the SBA has developed a small business size standard specifically for incumbent local exchange services. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[54] According to Commission data,[55] 1,303 carriers have reported that they are engaged in the provision of incumbent local exchange services. Of these 1,303 carriers, an estimated 1,020 have 1,500 or fewer employees and 283 have more than 1,500 employees. Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses that may be affected by our action.

22. *Competitive Local Exchange Carriers, Competitive Access Providers (CAPs), "Shared-Tenant Service Providers," and "Other Local Service Providers."* Neither the Commission nor the SBA has developed a small business size standard specifically for these service providers. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[56] According to Commission data,[57] 769 carriers have reported that they are engaged in the provision of either competitive access provider services or competitive local exchange carrier services. Of these 769 carriers, an estimated 676 have 1,500 or fewer employees and 93 have more than 1,500 employees. In addition, 12 carriers have reported that they are "Shared-Tenant Service Providers," and all 12 are estimated to have 1,500 or fewer employees. In addition, 39 carriers have reported that they are "Other Local Service Providers." Of the 39, an estimated 38 have 1,500 or fewer employees and one has more than 1,500 employees. Consequently, the Commission estimates that most providers of competitive local exchange service, competitive access providers, "Shared-Tenant Service Providers," and "Other Local Service Providers" are small entities that may be affected by our action.

23. *Local Resellers.* The SBA has developed a small business size standard for the category of Telecommunications Resellers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[58] According to Commission data,[59] 143 carriers have reported that they are engaged in the provision of local resale services. Of these, an estimated 141 have 1,500 or fewer employees and two have more than 1,500 employees. Consequently, the Commission estimates that the majority of local resellers are small entities that may be affected by our action.

24. *Toll Resellers.* The SBA has developed a small business size standard for the category of Telecommunications Resellers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[60] According to Commission data,[61] 770 carriers have reported that they are engaged in the provision of toll resale services. Of these, an estimated 747 have 1,500 or fewer employees and 23 have more than 1,500 employees. Consequently, the Commission estimates that the majority of toll resellers are small entities that may be affected by our action.

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[54] 13 C.F.R. § 121.201, NAICS code 517110 (changed from 513310 in Oct. 2002).

[55] FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, "Trends in Telephone Service" at Table 5.3, page 5-5 (April 2005) ("Trends in Telephone Service"). This source uses data that are current as of October 1, 2004.

[56] 13 C.F.R. § 121.201, NAICS code 517110 (changed from 513310 in Oct. 2002).

[57] "Trends in Telephone Service" at Table 5.3.

[58] 13 C.F.R. § 121.201, NAICS code 517310 (changed from 513330 in Oct. 2002).

[59] "Trends in Telephone Service" at Table 5.3.

[60] 13 C.F.R. § 121.201, NAICS code 517310 (changed from 513330 in Oct. 2002).

[61] "Trends in Telephone Service" at Table 5.3.

25. *Payphone Service Providers (PSPs).* Neither the Commission nor the SBA has developed a small business size standard specifically for payphone services providers. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[62] According to Commission data,[63] 613 carriers have reported that they are engaged in the provision of payphone services. Of these, an estimated 609 have 1,500 or fewer employees and four have more than 1,500 employees. Consequently, the Commission estimates that the majority of payphone service providers are small entities that may be affected by our action.

26. *Interexchange Carriers (IXCs).* Neither the Commission nor the SBA has developed a small business size standard specifically for providers of interexchange services. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[64] According to Commission data,[65] 316 carriers have reported that they are engaged in the provision of interexchange service. Of these, an estimated 292 have 1,500 or fewer employees and 24 have more than 1,500 employees. Consequently, the Commission estimates that the majority of IXCs are small entities that may be affected by our action.

27. *Operator Service Providers (OSPs).* Neither the Commission nor the SBA has developed a small business size standard specifically for operator service providers. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[66] According to Commission data,[67] 23 carriers have reported that they are engaged in the provision of operator services. Of these, an estimated 20 have 1,500 or fewer employees and three have more than 1,500 employees. Consequently, the Commission estimates that the majority of OSPs are small entities that may be affected by our action.

28. *Prepaid Calling Card Providers.* Neither the Commission nor the SBA has developed a small business size standard specifically for prepaid calling card providers. The appropriate size standard under SBA rules is for the category Telecommunications Resellers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[68] According to Commission data,[69] 89 carriers have reported that they are engaged in the provision of prepaid calling cards. Of these, 88 are estimated to have 1,500 or fewer employees and one has more than 1,500 employees. Consequently, the Commission estimates that all or the majority of prepaid calling card providers are small entities that may be affected by our action.

29. *800 and 800-Like Service Subscribers.*[70] Neither the Commission nor the SBA has developed a small business size standard specifically for 800 and 800-like service ("toll free") subscribers. The appropriate size standard under SBA rules is for the category Telecommunications Resellers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[71] The most reliable source of information regarding the number of these service subscribers appears to be data

[62] 13 C.F.R. § 121.201, NAICS code 517110 (changed from 513310 in Oct. 2002).

[63] "Trends in Telephone Service" at Table 5.3.

[64] 13 C.F.R. § 121.201, NAICS code 517110 (changed from 513310 in Oct. 2002).

[65] "Trends in Telephone Service" at Table 5.3.

[66] 13 C.F.R. § 121.201, NAICS code 517110 (changed from 513310 in Oct. 2002).

[67] "Trends in Telephone Service" at Table 5.3.

[68] 13 C.F.R. § 121.201, NAICS code 517310 (changed from 513330 in Oct. 2002).

[69] "Trends in Telephone Service" at Table 5.3.

[70] We include all toll-free number subscribers in this category, including those for 888 numbers.

[71] 13 C.F.R. § 121.201, NAICS code 517310 (changed from 513330 in Oct. 2002).

the Commission collects on the 800, 888, and 877 numbers in use.[72] According to our data, at the end of January, 1999, the number of 800 numbers assigned was 7,692,955; the number of 888 numbers assigned was 7,706,393; and the number of 877 numbers assigned was 1,946,538. We do not have data specifying the number of these subscribers that are not independently owned and operated or have more than 1,500 employees, and thus are unable at this time to estimate with greater precision the number of toll free subscribers that would qualify as small businesses under the SBA size standard. Consequently, we estimate that there are 7,692,955 or fewer small entity 800 subscribers; 7,706,393 or fewer small entity 888 subscribers; and 1,946,538 or fewer small entity 877 subscribers.

c. International Service Providers

30. The Commission has not developed a small business size standard specifically for providers of international service. The appropriate size standards under SBA rules are for the two broad census categories of "Satellite Telecommunications" and "Other Telecommunications." Under both categories, such a business is small if it has $13.5 million or less in average annual receipts.[73]

31. The first category of Satellite Telecommunications "comprises establishments primarily engaged in providing point-to-point telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications."[74] For this category, Census Bureau data for 2002 show that there were a total of 371 firms that operated for the entire year.[75] Of this total, 307 firms had annual receipts of under $10 million, and 26 firms had receipts of $10 million to $24,999,999.[76] Consequently, we estimate that the majority of Satellite Telecommunications firms are small entities that might be affected by our action.

32. The second category of Other Telecommunications "comprises establishments primarily engaged in (1) providing specialized telecommunications applications, such as satellite tracking, communications telemetry, and radar station operations; or (2) providing satellite terminal stations and associated facilities operationally connected with one or more terrestrial communications systems and capable of transmitting telecommunications to or receiving telecommunications from satellite systems."[77] For this category, Census Bureau data for 2002 show that there were a total of 332 firms that operated for the entire year.[78] Of this total, 303 firms had annual receipts of under $10 million and 15 firms had annual receipts of $10 million to $24,999,999.[79] Consequently, we estimate that the majority of Other Telecommunications firms are small entities that might be affected by our action.

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[72] *See* FCC, Common Carrier Bureau, Industry Analysis Division, *Study on Telephone Trends*, Tables 21.2, 21.3, and 21.4 (Feb. 1999).

[73] 13 C.F.R. § 121.201, NAICS codes 517410 and 517910.

[74] U.S. Census Bureau, "2002 NAICS Definitions: 517410 Satellite Telecommunications" (www.census.gov., visited Feb. 2006).

[75] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 4, NAICS code 517410 (issued Nov. 2005).

[76] *Id.* An additional 38 firms had annual receipts of $25 million or more.

[77] U.S. Census Bureau, 2002 NAICS Definitions, "517910 Other Telecommunications"; http://www.census.gov/epcd/naics02/def/NDEF517.HTM.

[78] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 4, NAICS code 517910 (issued Nov. 2005).

[79] *Id.* An additional 14 firms had annual receipts of $25 million or more.

d. Cable and OVS Operators

33. *Cable and Other Program Distribution.* The Census Bureau defines this category as follows: "This industry comprises establishments primarily engaged as third-party distribution systems for broadcast programming. The establishments of this industry deliver visual, aural, or textual programming received from cable networks, local television stations, or radio networks to consumers via cable or direct-to-home satellite systems on a subscription or fee basis. These establishments do not generally originate programming material."[80] The SBA has developed a small business size standard for Cable and Other Program Distribution, which is: all such firms having $13.5 million or less in annual receipts.[81] According to Census Bureau data for 2002, there were a total of 1,191 firms in this category that operated for the entire year.[82] Of this total, 1,087 firms had annual receipts of under $10 million, and 43 firms had receipts of $10 million or more but less than $25 million.[83] Thus, under this size standard, the majority of firms can be considered small.

34. *Cable Companies and Systems.* The Commission has also developed its own small business size standards, for the purpose of cable rate regulation. Under the Commission's rules, a "small cable company" is one serving 400,000 or fewer subscribers, nationwide.[84] Industry data indicate that, of 1,076 cable operators nationwide, all but eleven are small under this size standard.[85] In addition, under the Commission's rules, a "small system" is a cable system serving 15,000 or fewer subscribers.[86] Industry data indicate that, of 7,208 systems nationwide, 6,139 systems have under 10,000 subscribers, and an additional 379 systems have 10,000-19,999 subscribers.[87] Thus, under this second size standard, most cable systems are small.

35. *Cable System Operators.* The Communications Act of 1934, as amended, also contains a size standard for small cable system operators, which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1 percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed $250,000,000."[88] The Commission has determined that an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed $250 million in the aggregate.[89] Industry data indicate that, of

[80] U.S. Census Bureau, 2002 NAICS Definitions, "517510 Cable and Other Program Distribution"; http://www.census.gov/epcd/naics02/def/NDEF517.HTM.

[81] 13 C.F.R. § 121.201, NAICS code 517510.

[82] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, Table 4, Receipts Size of Firms for the United States: 2002, NAICS code 517510 (issued November 2005).

[83] *Id.* An additional 61 firms had annual receipts of $25 million or more.

[84] 47 C.F.R. § 76.901(e). The Commission determined that this size standard equates approximately to a size standard of $100 million or less in annual revenues. *Implementation of Sections of the 1992 Cable Act: Rate Regulation*, Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393, 7408 (1995).

[85] These data are derived from: R.R. Bowker, *Broadcasting & Cable Yearbook 2006*, "Top 25 Cable/Satellite Operators," pages A-8 & C-2 (data current as of June 30, 2005); Warren Communications News, *Television & Cable Factbook 2006*, "Ownership of Cable Systems in the United States," pages D-1805 to D-1857.

[86] 47 C.F.R. § 76.901(c).

[87] Warren Communications News, *Television & Cable Factbook 2006*, "U.S. Cable Systems by Subscriber Size," page F-2 (data current as of Oct. 2005). The data do not include 718 systems for which classifying data were not available.

[88] 47 U.S.C. § 543(m)(2); *see* 47 C.F.R. § 76.901(f) & nn. 1-3.

[89] 47 C.F.R. § 76.901(f); *see* Public Notice, *FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, DA 01-158 (Cable Services Bureau, Jan. 24, 2001).

1,076 cable operators nationwide, all but ten are small under this size standard.[90] We note that the Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed $250 million,[91] and therefore we are unable to estimate more accurately the number of cable system operators that would qualify as small under this size standard.

36. *Open Video Services (OVS).* In 1996, Congress established the open video system (OVS) framework, one of four statutorily recognized options for the provision of video programming services by local exchange carriers (LECs).[92] The OVS framework provides opportunities for the distribution of video programming other than through cable systems. Because OVS operators provide subscription services,[93] OVS falls within the SBA small business size standard of Cable and Other Program Distribution Services, which consists of such entities having $13.5 million or less in annual receipts.[94] The Commission has certified 25 OVS operators, with some now providing service. Broadband service providers (BSPs) are currently the only significant holders of OVS certifications or local OVS franchises.[95] As of June, 2005, BSPs served approximately 1.4 million subscribers, representing 1.5 percent of all MVPD households.[96] Affiliates of Residential Communications Network, Inc. (RCN), which serves about 371,000 subscribers as of June, 2005, is currently the largest BSP and 14th largest MVPD.[97] RCN received approval to operate OVS systems in New York City, Boston, Washington, D.C. and other areas. The Commission does not have financial information regarding the entities authorized to provide OVS, some of which may not yet be operational. We thus believe that at least some of the OVS operators may qualify as small entities.

e. Internet Service Providers

37. *Internet Service Providers.* The SBA has developed a small business size standard for Internet Service Providers (ISPs). ISPs "provide clients access to the Internet and generally provide related services such as web hosting, web page designing, and hardware or software consulting related to Internet connectivity."[98] Under the SBA size standard, such a business is small if it has average annual receipts of $23 million or less.[99] According to Census Bureau data for 2002, there were 2,529 firms in

[90] These data are derived from: R.R. Bowker, *Broadcasting & Cable Yearbook 2006*, "Top 25 Cable/Satellite Operators," pages A-8 & C-2 (data current as of June 30, 2005); Warren Communications News, *Television & Cable Factbook 2006*, "Ownership of Cable Systems in the United States," pages D-1805 to D-1857.

[91] The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority's finding that the operator does not qualify as a small cable operator pursuant to § 76.901(f) of the Commission's rules. *See* 47 C.F.R. § 76.909(b).

[92] 47 U.S.C. § 571(a)(3)-(4). *See Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Eleventh Annual Report,* 20 FCC Rcd 2507, 2549 ¶ 88 (2006) ("*2006 Cable Competition Report*").

[93] *See* 47 U.S.C. § 573.

[94] 13 C.F.R. § 121.201, NAICS code 517510.

[95] *See 2006 Cable Competition Report*, 20 FCC Rcd at 2549 ¶ 88. BSPs are newer firms that are building state-of-the-art, facilities-based networks to provide video, voice, and data services over a single network.

[96] *See id.* at 2507 ¶ 14.

[97] *See 2006 Cable Competition Report*, 20 FCC Rcd at 2549 ¶ 89. WideOpenWest is the second largest BSP and 16th largest MVPD, with cable systems serving about 292,000 subscribers as of June, 2005. The third largest BSP is Knology, serving approximately 170,800 subscribers as of June, 2005. *Id.*

[98] U.S. Census Bureau, "2002 NAICS Definitions: 518111 Internet Service Providers" (Feb. 2004) <www.census.gov>.

[99] 13 C.F.R. § 121.201, NAICS code 518111 (changed from previous code 514191, "On-Line Information Services," in Oct. 2002).

this category that operated for the entire year.[100] Of these, 2,437 firms had annual receipts of under $10 million, and 47 firms had receipts of $10 million or more but less then $25 million.[101] Consequently, we estimate that the majority of these firms are small entities that may be affected by our action.

38. *All Other Information Services.* "This industry comprises establishments primarily engaged in providing other information services (except new syndicates and libraries and archives)."[102] The SBA has developed a small business size standard for this category; that size standard is $6.5 million or less in average annual receipts.[103] According to Census Bureau data for 1997, there were 195 firms in this category that operated for the entire year.[104] Of these, 172 had annual receipts of under $5 million, and an additional nine firms had receipts of between $5 million and $9,999,999. Consequently, we estimate that the majority of these firms are small entities that may be affected by our action.

f. Equipment Manufacturers

39. *Wireless Communications Equipment Manufacturing.* The Census Bureau defines this category as follows: "This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment."[105] The SBA has developed a small business size standard for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, which is: all such firms having 750 or fewer employees.[106] According to Census Bureau data for 2002, there were a total of 1,041 establishments in this category that operated for the entire year.[107] Of this total, 1,010 had employment of under 500, and an additional 13 had employment of 500 to 999.[108] Thus, under this size standard, the majority of firms can be considered small.

40. *Telephone Apparatus Manufacturing.* The Census Bureau defines this category as follows: "This industry comprises establishments primarily engaged in manufacturing wire telephone and

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[100] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, Table 4, Receipts Size of Firms for the United States: 2002, NAICS code 518111 (issued November 2005).

[101] *Id.* An additional 45 firms had annual receipts of $25 million or more.

[102] U.S. Census Bureau, "2002 NAICS Definitions: 519190 All Other Information Services" (Feb. 2004) <www.census.gov>.

[103] 13 C.F.R. § 121.201, NAICS code 519190 (changed from 514199 in Oct. 2002).

[104] U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 4, NAICS code 514199 (issued Oct. 2000). This category was created for the 2002 Economic Census by taking a portion of the superseded 1997 category, "All Other Information Services," NAICS code 514199. The data cited in the text above are derived from the superseded category.

[105] U.S. Census Bureau, 2002 NAICS Definitions, "334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing"; http://www.census.gov/epcd/naics02/def/NDEF334.HTM#N3342.

[106] 13 C.F.R. § 121.201, NAICS code 334220.

[107] U.S. Census Bureau, American FactFinder, 2002 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334220 (released May 26, 2005); http://factfinder.census.gov. The number of "establishments" is a less helpful indicator of small business prevalence in this context than would be the number of "firms" or "companies," because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks-out data for firms or companies only to give the total number of such entities for 2002, which was 929.

[108] *Id.* An additional 18 establishments had employment of 1,000 or more.

data communications equipment. These products may be standalone or board-level components of a larger system. Examples of products made by these establishments are central office switching equipment, cordless telephones (except cellular), PBX equipment, telephones, telephone answering machines, LAN modems, multi-user modems, and other data communications equipment, such as bridges, routers, and gateways."[109] The SBA has developed a small business size standard for Telephone Apparatus Manufacturing, which is: all such firms having 1,000 or fewer employees.[110] According to Census Bureau data for 2002, there were a total of 518 establishments in this category that operated for the entire year.[111] Of this total, 511 had employment of under 1,000, and an additional 7 had employment of 1,000 to 2,499.[112] Thus, under this size standard, the majority of firms can be considered small.

41. *Semiconductor and Related Device Manufacturing.* These establishments manufacture "computer storage devices that allow the storage and retrieval of data from a phase change, magnetic, optical, or magnetic/optical media."[113] The SBA has developed a small business size standard for this category of manufacturing; that size standard is 500 or fewer employees.[114] According to Census Bureau data for 1997, there were 1,082 establishments in this category that operated for the entire year.[115] Of these, 987 had employment of under 500, and 52 establishments had employment of 500 to 999.

42. *Computer Storage Device Manufacturing.* These establishments manufacture "computer storage devices that allow the storage and retrieval of data from a phase change, magnetic, optical, or magnetic/optical media."[116] The SBA has developed a small business size standard for this category of manufacturing; that size standard is 1,000 or fewer employees.[117] According to Census Bureau data for 1997, there were 209 establishments in this category that operated for the entire year.[118] Of these, 197 had employment of under 500, and eight establishments had employment of 500 to 999.

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[109] U.S. Census Bureau, 2002 NAICS Definitions, "334210 Telephone Apparatus Manufacturing"; http://www.census.gov/epcd/naics02/def/NDEF334.HTM#N3342.

[110] 13 C.F.R. § 121.201, NAICS code 334210.

[111] U.S. Census Bureau, American FactFinder, 2002 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334210 (released May 26, 2005); http://factfinder.census.gov. The number of "establishments" is a less helpful indicator of small business prevalence in this context than would be the number of "firms" or "companies," because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks-out data for firms or companies only to give the total number of such entities for 2002, which was 450.

[112] *Id.* An additional 4 establishments had employment of 2,500 or more.

[113] U.S. Census Bureau, "2002 NAICS Definitions: 334413 Semiconductor and Related Device Manufacturing" (Feb. 2004) <www.census.gov>.

[114] 13 C.F.R. § 121.201, NAICS code 334413.

[115] U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, "Semiconductor and Related Device Manufacturing ," Table 4, NAICS code 334413 (issued July 1999).

[116] U.S. Census Bureau, "2002 NAICS Definitions: 334112 Computer Storage Device Manufacturing" (Feb. 2004) <www.census.gov>.

[117] 13 C.F.R. § 121.201, NAICS code 334112.

[118] U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, "Computer Storage Device Manufacturing," Table 4, NAICS code 334112 (issued July 1999).

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

43. The Notice includes a tentative conclusion that carriers should automatically provide accuracy data to PSAPs.[119] Accordingly, it is possible that the Commission may establish rules imposing additional recordkeeping requirements on small entities. The Notice seeks comment on what specific information carriers should provide to PSAPs; the Commission will examine the resulting record to determine whether any requirements should apply to small entities.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

44. The RFA requires an agency to describe any significant, specifically small business alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) and exemption from coverage of the rule, or any part thereof, for small entities."[120]

45. In the Notice, the Commission specifically considers the impact of potential revisions to the wireless E911 accuracy rules on small entities. The Notice asks whether certain classes of carriers and/or rural networks should be held to a uniform standard of accuracy if the Commission were to adopt one, and if so, by what date they should be required to come into compliance with a more stringent, uniform accuracy requirement.[121] In previous rulemakings, the Commission has established different compliance deadlines for small wireless carriers.[122] The questions posed in today's Notice will enable the Commission to assess whether similar concessions to small entities are warranted with respect to wireless E911 accuracy requirements.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

46. None.

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[119] *See* Notice at para. 17.

[120] 5 U.S.C. §§ 603(c)(1)-(c)(4).

[121] *See* Notice at para. 13.

[122] *See* Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, *Order*, 17 FCC Rcd 14841, 14851-52, ¶¶ 32-35 (2002) (establishing a longer compliance period for small wireless carriers to achieve compliance with the handset sale and activation requirements of the Commission's wireless E911 rules).

STATEMENT OF
CHAIRMAN KEVIN J. MARTIN

Re: In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems (CC Docket No. 94-102); Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling, Wireless E911 Location Accuracy Requirements (PS Docket No. 07-114); 911 Requirements for IP-Enabled Service Providers (WC Docket No. 05-196)

E911 ensures that when someone dials 911 during an emergency, public safety can easily and reliably find them. To achieve that goal, we need to ensure that our enhanced 911 rules provide meaningful automatic location information that permits first responders to reliably find the public.

Multi-state or state-wide averaging can mask the reliability of 911 outside of large urban areas. For example, meeting location accuracy standards on average in the entire state of New York by providing enhanced 911 capability in Manhattan does not help first responders in Buffalo.

Quite simply, providing location accuracy information on a multi-state or state-wide basis is not enough. It does not provide public safety with the information it needs to do its job effectively. The tentative conclusion in today's NPRM to require location accuracy measurement at the PSAP-level will help provide necessary and possibly life-saving information to our first responders.

While I do not believe that it was the intent of our rules to allow state-wide averaging, we are seeking brief public comment on APCO's proposal to require location information on a PSAP-level basis. Our decision on this issue, however, must be prompt, as it will help set the stage for the discussions among all stakeholders on the means to achieve meaningful location accuracy in the quickest manner possible.

We have long known that the two location technologies used by carriers — handset-based GPS and network-based triangulation — each have limitations. Network-based technologies are not as effective in rural areas often due to lack of sufficient towers. Handset-based technologies are not as effective in urban areas, as signals often have difficulty penetrating buildings. In this respect, a network-based technology that works well in Manhattan may have little or no ability to locate an individual in other parts of the state. As technology has developed, however, so must our standards and expectations.

The Notice of Proposed Rulemaking recognizes that the different technologies chosen by carriers to date have limitations, and seeks comment on ways to remedy these shortcomings. For example, we specifically ask about the use of hybrid technologies that employ both handset-based and network-based location solutions. Among other things, the Notice also asks how roaming among carriers that use different location technologies should be addressed, and to what extent providers of interconnected voice over Internet protocol services should be required to provide automatic location information.

These are important questions, and the bar must be raised for E911. We expect that carriers, technology providers, and public safety entities will rise to the occasion, and I look forward to working with my fellow Commissioners on these critical public safety issues.

STATEMENT OF COMMISSIONER MICHAEL J. COPPS

Re: In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems (CC Docket No. 94-102); Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling, Wireless E911 Location Accuracy Requirements (PS Docket No. 07-114); 911 Requirements for IP-Enabled Service Providers (WC Docket No. 05-196)

A call to 911 is among the most important calls that any of us will ever make. Customers deserve confidence that dialing these three digits will connect them to the help they need. And customers also need a realistic view of how well their current communications technologies will actually work in a crisis – because sometimes a false sense of reliance on a technology can be the most dangerous thing of all. Just consider the example of first responders focusing an exhaustive search for an injured caller on the ground next to 300 meters of highway – only to learn, too late, that the victim was actually 1000 meters down the road. Or consider the example of someone who "cuts the cord" and relies exclusively on an E911-capable cell phone – only to learn, again too late, that their phone cannot determine what floor their apartment is on and may not work inside the apartment at all.

I am pleased that today's item raises a series of pressing and important questions about the Commission's current E911 location accuracy standards. I am even more pleased that the item commits to a process for improving our wireless location accuracy that I think can lead to meaningful, and still expeditious, improvements in our emergency calling system. We need to get a handle – a better handle than we presently have – on the precise capabilities and limitations of today's emergency calling technologies. It is clear that we still have a serious challenge in making and completing some in-building emergency calls. Such calls comprise, of course, a significant percentage of all emergency calls. We need to resolve that. Another study will look at the potential and costs of hybrid technologies that could combine, in one device, the technologies appropriate for both urban and rural calling. Successfully meeting this challenge could result in huge public safety gains for all Americans.

The Commission itself will conduct these studies, working of course with industry and public safety stakeholders as appropriate, but avoiding exclusive reliance on industry-generated statistics and/or the self-assessments of technology solution providers. We don't have the time here to get bogged down in contentious technical and methodological disputes. By conducting real-world testing, the Commission can develop an independent body of knowledge upon which we all can rely, thereby freeing up industry, public safety advocates, and the Commission itself to move forward to working on constructive solutions. It is a front-and-center role for the Commission that public safety compels – there's no way around it. The process envisioned here is for the Commission to move full-speed ahead so it can expeditiously issue public reports setting forth its findings and potential solutions. I thank the Chairman for his commitment to initiate and complete these evaluations swiftly so that the issuance of a final order will not be unduly delayed.

I want also to emphasize my belief that, after developing revised location accuracy and accuracy reporting standards, aggressive and thorough enforcement will continue to be important – just as enforcement has been important in getting us this far. Our commitment to enforcement will be part of the measure of our success as much as the nature of the rules themselves.

I look forward to working with the Chairman and my colleagues to ensure that the important work we begin here today ends up making the world a safer place for America's wireless users. And my thanks to everyone here at the Commission who works so hard on these matters.

CONCURRING STATEMENT OF COMMISSIONER JONATHAN S. ADELSTEIN

Re: In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems (CC Docket No. 94-102); Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling, Wireless E911 Location Accuracy Requirements (PS Docket No. 07-114); 911 Requirements for IP-Enabled Service Providers (WC Docket No. 05-196)

There is no higher calling or higher priority for us at the Commission than improving 911 and enhanced 911 (E911) emergency response services. Every day, we confront issues that have millions of dollars at stake; but this literally is a matter of life or death. My primary objective in promoting E911 services is to make sure that the Commission is always moving the ball forward – that we are making policy and enforcement decisions that will lead us to more advanced 911 and E911 services for all citizens and in the most effective and efficient manner possible.

Against that backdrop, I support the very timely launch of this proceeding to look at the current status of E911 Phase II location accuracy and to rightly consider how we can improve our nation's E911 network. While we have made great progress over the past several years in promoting the deployment of E911 Phase II services, recent reports that location data may not be sufficiently accurate to be of help to public safety answering points (PSAPs) warrant our full attention. It is time for a renewed commitment from all of the parties involved in E911 to provide first responders with the best data possible or, as was described to me, the right door to be kicked in.

But these answers don't always come quickly. As we begin this important initiative, it also is critical that the Commission commit to conduct this proceeding in a thoughtful and deliberate manner to ensure that the steps we take truly advance E911. No one will be well served by a proceeding that inevitably draws affected parties into unnecessary disputes and legal uncertainties that distract all of us from the real objective of improved E911.

I am concerned that this proceeding, while well-intentioned, rushes to judgment by issuing a series of tentative conclusions without even beginning to conduct the necessary due diligence. I am troubled that we are considering imposing a new compliance requirement that we know some carriers will be unable to meet in certain circumstances. To make matters worse, we are bifurcating the proceeding with the goal of setting a new accuracy compliance standard well in advance of making a determination of how we can actually achieve improved location accuracy. This is premature from both legal and policy standpoints.

We all share the goal of providing the best location data possible to public safety. I fully support the effort to require carriers to conduct testing on the PSAP level, particularly in response to requesting PSAPs. This information exchange is an important dialogue to improve accuracy and collaboration between PSAPs and carriers. PSAPs must know the quality of the data they are receiving so that they can deploy their scarce resources accordingly.

But I believe that it is premature to support the several tentative conclusions in this item before the Commission has been presented with a full record and conducted its own review of current data and future technology. At a minimum, we should put in place a series of hearings and reports that will guide us to develop benchmarks and targets that will pave the way to a new approach to accuracy compliance. Each of these can be done on an expedited basis.

Indeed, it is troublesome to advance the notable goal of PSAP location accuracy compliance without considering the disruption that may be caused in setting such a specific FCC rule. To gauge the

full implications of this approach, we should heed the words of those closer to the issue, like the National Association of State 9-1-1 Administrators:

> If the Commission adopts Phase II accuracy testing requirements that currently available location technologies cannot meet (such as a requirement for PSAP level testing), states with carrier cost recovery will be responsible for the cost of new technologies that have not yet been developed to meet those requirements. ...
>
> It is important to remember that the current accuracy requirement (distance measurement) was based on the promise of the location technology BEFORE it was actually developed as a solution. To hold a new technology solution to this same requirement would be highly inappropriate. We must instead determine the optimal accuracy to save lives and focus our efforts to achieving that goal. ...
>
> To adopt an accuracy testing process that cannot be achieved at this time not only puts the carrier in a compliance limbo, but also puts many states in a budgetary limbo until someone can figure out how to achieve the requirement.[1]

In launching this proceeding, we need to keep our eye on the prize – improving E911. So while we obviously should take a serious and considered look at location accuracy, we also need to take a step back from the issue and consider the future of E911 and how it will be used in an IP-based world. Fore example, we should gather evidence about those situations when callers cannot be located, or not quickly enough.

We also should carefully review the impact on E911 of the increasing use of wireless phones at home. Should we look beyond network-based technologies to provide E911 Phase II for subscribers using home-based wireless phones since we know that these users are at a fixed location for a large part of the day? We need to think creatively in considering this important shift in the increasing use of wireless communications as a replacement for wireline services.

As we look to new accuracy requirements, should we consider a topographic- or geographic-based standard to E911 that may better reflect the practicalities of trying to make a location determination in certain parts of the country? Should we consider population density or tower site density? And with improved accuracy, should we be taking a closer look at how privacy interests interest with innovation in the E911 space? Finally, and not to be overlooked in this accuracy debate, how can we encourage Phase II deployment to the 30% of PSAPs who still rely on E911 Phase I or something even less?

I don't have the answers to these and the many other questions that need to be asked about the future of E911 and location accuracy. Fortunately, we have an abundance of resources, both inside and outside the Commission, that are well positioned to provide guidance on the many elements of E911. Indeed, we already have the work of NRIC 1A[2] and APCO's Project Locate[3] that specifically look at the accuracy location issue, and we should immediately put these and any other relevant documents out for public comment in this docket.

We also should leverage the expertise of those who have worked on E911 issues for some time to better inform our decision making process. Much like the WARN Act Advisory Committee, we could

[1] *Ex Parte* Comments of the National Association of State 9-1-1 Administrators, CC Docket No. 94-102 (filed May 23, 2007) (emphasis in original).

[2] *See* http://www.nric.org/meetings/docs/meeting_20051216/FG%201A_Dec%2005_Final%20Report.pdf.

[3] *See* http://www.locatemodelcities.org/documents/LOCATE_Final_Report.pdf.

immediately convene a committee of industry and public safety experts to develop and submit recommendations to the FCC regarding technical standards and protocols for the next generation of automatic location services. In conjunction with such a committee, we should commit to hold hearings on specific E911 issues including (1) the challenges of accuracy compliance in rural areas; (2) the challenges of accuracy compliance in urban areas and in-building settings; and (3) the current and future state of location technology. I also support the efforts by Commissioner Copps to put in place specific goals for the Commission staff to develop our own internal analysis on the promise of future location technologies to help inform this important debate.

It is easy to say that we want something better for E911. No one disputes the goal of improved location accuracy. The harder question is how to get there. It is questionable that the best way is for the Commission to set a utopian standard before it even considers the full record. After much consideration, I think we need a more collaborative approach. I am unable to fully support our item because I am concerned the debate over compliance will create an unnecessary sideshow to the main event of improving E911 services.

For all of the reasons above, I concur in this item.

STATEMENT OF COMMISSIONER DEBORAH TAYLOR TATE

Re: In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems (CC Docket No. 94-102); Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling, Wireless E911 Location Accuracy Requirements (PS Docket No. 07-114); 911 Requirements for IP-Enabled Service Providers (WC Docket No. 05-196)

One of the core purposes of the Commission is "promoting safety of life and property through the use of wire and radio communication." Throughout the Commission's history this Commission has acted to fulfill that purpose, but perhaps one of its most successful and important actions was to adopt in 1996 rules requiring the Commercial Mobile Radio Service industry to implement basic 911 and E911 services. Hundreds of thousands of Americans dial "911" on their mobile phones each day, and the location information that is sent along with the vast majority of these calls is critical to ensuring a timely arrival by first responders. It's been proven again and again that the combination of a wireless phone and "911" saves lives.

This item is an important step towards improving and modernizing that system. In light of the amazing technological progress we witness each year, it makes perfect sense to ask questions like whether the location accuracy rules we last updated in 1999 should be revised, whether we are measuring accuracy in the most appropriate manner, and whether other new communications services like interconnected VoIP also should be required to send more accurate location information. I am pleased that this item will help us to answer those questions and allow us to ensure that our communications infrastructure even better helps to protect each and every American citizen.

STATEMENT OF COMMISSIONER ROBERT M. McDOWELL

Re: In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems (CC Docket No. 94-102); Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling, Wireless E911 Location Accuracy Requirements (PS Docket No. 07-114); 911 Requirements for IP-Enabled Service Providers (WC Docket No. 05-196)

I am hopeful that the *Notice of Proposed Rulemaking* we approve today will serve as a positive start to a challenging task. I am pleased that we are inviting comment and debate on a proposal from the Association of Public-Safety Communications Officials-International (APCO), which would require licensees subject to our E911 rules to satisfy location accuracy at a geographic level defined by the coverage area of each respective local Public Safety Answering Point (PSAP). Certainly it is of paramount importance that wireless E911 service satisfies the needs of public safety personnel, as well as the expectations of America's wireless consumers.

That said, we must walk before we can run. At the present time, it appears that measuring location accuracy at the PSAP level presents real challenges to carriers, technology providers, and PSAPs alike. Further, I understand that many wireless carriers are not generally capable of measuring and testing location accuracy at the PSAP level, and that they require adequate time to achieve this measurement. This is not surprising since there are over 6,000 PSAPs in the United States, each with unique deployment, topography, network, and RF propagation issues. Given these circumstances, I am delighted that the Commission will be building a more complete record upon which to make informed decisions as we move forward. And, I thank the Chairman for his support of this flexible, goal-oriented approach.

It is important to note that the *NPRM* we adopt today does not preemptively impose a geographic mandate. Rather, we first seek comment on whether to adopt the APCO proposal, and separately ask specific questions about the timing for enforcing any rule regarding geographic area or areas that we may adopt. While I appreciate the need to gather a record quickly on the merits of the APCO proposal (pursuant to the request of the association itself), I am also pleased that we are allowing a more reasonable comment period on the myriad implementation issues. I am counting on interested parties to raise and analyze all of the important issues surrounding E911 location accuracy, whether noted in today's *NPRM* or not. We must work together to establish realistic accuracy and reliability requirements that are achievable.

At the end of the day, I envision the development of a meaningful partnership among the commercial wireless industry, technology providers, and public safety entities that will ensure the best possible access to E911 location information for the benefit of wireless callers *and* emergency response providers in as expeditious a time frame as possible. I believe that harnessing the expertise of all interested stakeholders in this manner will serve the public interest and move all of us ahead to quickly solve these challenges in a straightforward, comprehensive and transparent manner.