

AUG 31 2001

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Revision of the Commission's Rules)	
To Ensure Compatibility with)	CC Docket No. 94-102/
Enhanced 911 Emergency)	DA 01-1836
Calling Systems)	

To: Wireless Telecommunications Bureau

REPLY COMMENTS OF VERIZON WIRELESS

Verizon Wireless hereby submits reply comments on its Updated Phase II E911 Report and Request for Limited Waiver ("Request"), filed July 25, 2001. These reply comments address the four initial comments on the Request, and also respond to questions raised by Bureau staff during a meeting held on August 23, 2001.¹

Verizon Wireless will continue to work with the Commission, vendors, and the public safety community to promote the goal of providing enhanced 911 location services for the American public. Although a limited waiver establishing a modified schedule for Phase II deployment is necessary given that complete, end-to-end technical solutions are only now becoming available, Verizon Wireless is committed to deploy those solutions as promptly as possible. Other carriers using CDMA technology agree that a network-assisted handset-based solution is the best approach. The AGPS/AFLT handset solution

¹ The *ex parte* notice of the meeting was filed on behalf of Verizon Wireless on August 24, 2001. During the meeting, Bureau staff also asked that Verizon Wireless supply information about the status of Phase I E911 deployment. That information is being assembled and will be submitted as a written *ex parte* communication shortly.

No. of Copies rec'd 014
LRABODE

we plan to deploy will provide what we believe is the most accurate Phase II location technology as quickly as possible, thereby meeting the Commission's goals.

I. THE RECORD SUPPORTS GRANT OF A LIMITED WAIVER.

Verizon Wireless' 38-page Request and supporting exhibits set forth the factual and legal justifications for granting a limited waiver of the Phase II requirements. CTIA, AT&T Wireless and Motorola all supported grant of the requested waiver.² CTIA cited the fact that Verizon Wireless has provided a clear path to compliance as justification for granting the limited waiver request.³ AT&T Wireless also noted that industry waiver requests were necessary given the state of technological development.⁴ Motorola, one of Verizon Wireless' network vendors, supported the Request and affirms the position that Phase II availability must necessarily wait until network infrastructure upgrades are developed, tested, and installed.⁵ While APCO, NENA and NASNA⁶ assert that Verizon Wireless' Request provides insufficient information, they primarily seek additional data regarding our deployment schedule rather than oppose it. APCO et al.'s particular concerns and those of the Bureau staff are addressed herein or in sufficient detail in the Request. Based on the record, the Commission should grant the waiver.

² See Comments by CTIA, AT&T Wireless Services, Inc., and Motorola, Inc. regarding "WTB Seeks Comment on Wireless E911 Phase II Waiver Request Filed by Verizon Wireless," CC Docket No. 94-102, filed August 21, 2001.

³ CTIA comments at 4.

⁴ AT&T Wireless Services, Inc. comments at 1.

⁵ Motorola, Inc. comments at 2.

⁶ See Comments by APCO, NENA, and NASNA in "Response to Request for Waiver of Verizon Wireless" CC Docket No. 94-102, filed August 21, 2001.

II. VERIZON WIRELESS IS WORKING TO COMPLETE TESTING OF THE NETWORK COMPONENTS OF THE AGPS/AFLT SOLUTION.

Central to Verizon Wireless' Request is our commitment to deploy the network assist components of the handset-based solution – the PDE servers, switch and cell site software and Mobile Positioning Centers – as soon as its three network infrastructure vendors have compliant technologies. This will enable the upgrades to Verizon Wireless' networks to be made on a nationwide basis, without regard to PSAP readiness. PSAPs will still need to take steps to ensure that the remaining components of E911 service, including arrangements with CPE providers, landline carriers, and E911 service bureaus are in place so that they can receive and use Phase II location information. Once the network components are deployed, Verizon Wireless will be able to provide complete end-to-end Phase II E911 services to PSAPs that have taken the steps outlined above. The nationwide deployment of these upgrades to Verizon Wireless' network will better serve upgraded PSAPs next year than the fragmented approach of Section 20.18 of the Commission's rules.

Given the linkage between necessary network upgrades and carrier capability to provide Phase II, Bureau staff asked that Verizon Wireless indicate how many people would be covered in markets served by each of its three network infrastructure vendors. We currently have more than 140 Mobile Switching Centers ("MSCs"). Lucent is our principal network vendor, and we expect Lucent's technology to be deployed earliest, followed by Nortel and Motorola. We currently have network coverage encompassing approximately 235 million people, of which approximately 155 million are in markets where Lucent MSCs are deployed. Nortel and Motorola MSCs serve markets containing

approximately 40 million people each. Thus, *we expect to have network upgrades completed in markets serving 65% of the population we cover (e.g., in Lucent-switched markets) by April 2002*. Based on current vendor schedules, that number will increase from 155 million to 195 million by August 2002 as upgrades are made in Nortel markets and to 235 million by March 2003 as the Motorola-switched markets are upgraded.

Recognizing the importance of the network portion of the AGPS/AFLT solution, Verizon Wireless has emphasized to its three infrastructure vendors – Lucent, Motorola and Nortel – the urgency of rapid testing and deployment of Phase II technical solutions, and is working with those vendors to accomplish this as quickly as possible. We commit to advise the Bureau regularly as this work progresses.

Based on information provided by Lucent as to its schedule for First Office Application (“FOA”) testing, Verizon Wireless’ Request stated that the Lucent-furnished network upgrades were expected to be generally available for commercial deployment beginning October 1, 2001. Lucent subsequently advised Verizon Wireless and other carriers it supplies that FOA testing is now expected to be completed in late October – early November 2001. Given this change, Bureau staff asked that more information be provided as to the status of testing with Lucent. As provided by the attached Lucent letter, an extension was necessary due to changes in mobile software, limited access to over-the-air test facilities and the availability of AGPS mobiles. These issues have been resolved, and Lucent has advised that the new target general availability date is early November 2001.

Verizon Wireless is presently conducting two tests with Lucent. A trial is underway in Maple Shade, New Jersey of the Lucent network infrastructure and position

determining equipment ("PDE"). The trial team is testing the AGPS/AFLT technology and the EFLT technology. Verizon Wireless and Lucent have established lab time to perform test calls and to correct any problems discovered during the Maple Shade testing process. Verizon Wireless has retained BBN Technologies (formerly Verizon Labs) to perform objective, third-party accuracy testing in mid-September, 2001 that will complete the Maple Shade trial. We will provide these test results to the Commission in late September.

An FOA of the Lucent technology is also underway and testing will occur in Dallas, Texas. The Dallas FOA encompasses the switch and cell site software, PDE and MPC technology to provide test results for the AGPS/AFLT and EFLT technologies in a live network environment. Verizon Wireless conducts weekly conference calls with representatives from Lucent, BBN Technologies, and E911 vendors. All parties have been assigned action items, which are reviewed every week. A detailed FOA project plan has been developed to catalog the multiple and interdependent tasks that are necessary, the assignee, and the status of the task. Although the test schedules and general availability dates have slipped somewhat, unless there are further significant slippages, the April 1, 2002 date for nationwide deployment remains feasible.

The Maple Shade trial and the Dallas FOA are directly related. Normally, an FOA is scheduled after a product has performed successfully in a trial and the manufacturer has made the product ready for field service. In an effort to expedite matters, however, Verizon Wireless has entered into an FOA agreement that overlaps the Maple Shade trial. This will allow completion of this FOA on or about October 24, 2001. At that time, trial results will become available and will be provided to the Commission.

In addition to supporting the waiver request, Motorola provided specific comments regarding the availability of its AGPS/AFLT cell site and switch technology and handsets. Its comments underscore Verizon Wireless' position that a realistic Phase II deployment schedule should be tied to the availability of network infrastructure upgrades because, unless and until these upgrades are installed, carriers cannot meet Phase II requirements. Motorola committed to the timelines for the commercial availability of handsets provided by Verizon Wireless, and with minor modification, supported the switch infrastructure implementation date we specified.⁷ Motorola's comments document that vendor's efforts to date and the timeframes for future testing and commercial availability of its products, and thus address questions from the Bureau and APCO/NENA/NASNA on network upgrade availability.

APCO/NENA/NASNA suggest that the Commission should seek data from network and equipment vendors themselves concerning deadlines. Verizon Wireless agrees that this may be an efficient way for the Commission to obtain additional information, and would be ready to participate in any such meetings that may be held with its vendors.

Bureau staff also asked for data as to the level of analog service. There are two separate ways to count analog service – network coverage and subscribers. Verizon Wireless has invested substantial resources in adding digital network coverage as an

⁷ The differences in timelines noted by Motorola concerning switch and cell site software are attributable to the fact that each carrier employing Motorola's infrastructure will need to perform an FOA with Motorola using its network to ensure technical feasibility and reliability. Verizon Wireless provided dates based on its projections of when an FOA was likely to occur. At this point Verizon Wireless continues to believe that the date set forth in its waiver request for network deployment in its Motorola markets remains realistic.

“overlay” to its original cellular analog technology. Verizon Wireless’ network provides digital coverage to approximately 90% of the population it serves, one of the largest built digital mobile wireless networks of any wireless company. We continue to invest in digital buildout and expect digital coverage to reach nearly 100% by the end of 2003. Current FCC rules require that cellular licensees continue to provide analog network service to customers with analog handsets. The proportion of analog customers varies widely by market, with larger markets having relatively fewer analog customers. Nationally, about 35% of Verizon Wireless’ customers have analog-only handsets, and that number is steadily dropping. Moreover, minutes of usage (“MOU”) by analog customers averages significantly less than MOU by digital customers. Analog busy hour MOU, for example is now less than 15% of total MOU. In any event, Verizon Wireless will continue to provide Phase I cell-proximity location information and Automatic Number Identification to PSAPs to help locate analog customers.

III. VERIZON WIRELESS IS WORKING TO ENSURE RAPID AVAILABILITY OF AGPS/AFLT CAPABLE HANDSETS.

As the Request explained, Verizon Wireless has engaged its core suppliers in discussions regarding the availability of compliant handsets and realistic timeframes needed to reach the prescribed penetration levels. For those vendors with AGPS/AFLT products available in the near term, Samsung and Audiovox, Verizon Wireless will be testing those products in our lab in September and the first quarter of 2002 respectively.

Other CDMA carriers selecting the network-assisted handset solution have also asked for modified handset sales penetration benchmark dates because of the lead times involved to design, manufacture, ship, and sell new handsets. The dates provided by

Verizon Wireless for achieving the 25% and 50% benchmarks are not out of step with those proposed by ALTELL and Qwest. Specifically, the dates proposed by Verizon Wireless, July 31, 2002 for reaching the 25% benchmark and March 31, 2003 for reaching the 50% benchmark are only a month or two different from those proposed by ALLTEL and Qwest. APCO/NENA/NASNA ask why Verizon Wireless' benchmarks are later than the dates Sprint proposed. In fact, Sprint did not provide any specific dates for meeting the 25% and 50% benchmarks, and instead said it expected to achieve the 100% benchmark by December 2002. Sprint acknowledged, however, that it may be unable to meet the interim 25% and 50% handset activation benchmarks. Although this is earlier than the date sought by Verizon Wireless for 100% of new handset sales, as we explained in the Request (at pages 19-21), meeting the prescribed benchmarks entails not only the availability of adequate commercial volumes, but also widespread customer demand and acceptance. The pace at which this can occur depends on the mix of vendors and products, the number of handsets that must be sold, and other factors that are specific to each carrier. For example, as the Request discussed, Verizon Wireless must sell products that contain tri-mode capability to accommodate its operations on both digital and analog cellular and PCS frequencies, an issue that Sprint does not face because it is a PCS carrier. Therefore, categorical comparisons of the availability of handsets suitable for Sprint with those suitable for Verizon Wireless are inappropriate.

Verizon Wireless is pursuing a diversity of product offerings to increase demand for and the probability that a given customer would find an AGPS/AFLT capable handset to his or her liking. Based on recent communications from core vendors, Verizon Wireless expects a widespread availability of new handsets with AGPS/AFLT capability

during the second half of 2002. The introduction of these new products later in 2002, plus marketing and targeted incentives, will enable Verizon Wireless to meet the 100% benchmark by December, 2003. This schedule is based on a realistic assessment of what Verizon Wireless expects to be able to sell given our experience in the marketplace.

CONCLUSION

Verizon Wireless believes that grant of a limited waiver serves the public interest and the Commission's goals for Phase II E911 because it will encourage the deployment of a highly accurate location solution to as many people as quickly as possible. Grant of the waiver will promote the wide geographic availability of Phase II capability better than the fragmented approach of Section 20.18. It will obviate the current problem of uncertainty over the validity and timing of PSAP requests that will only distract PSAPs and carriers from working collaboratively to achieve widespread E911 service. Because Verizon Wireless' approach best serves the underlying purposes of Section 20.18, a waiver approving it is warranted, and should be promptly granted.

Respectfully submitted,

VERIZON WIRELESS

By: John T. Scott, III
John T. Scott, III
Lolita D. Smith

1300 I Street, N.W., Suite 400-West
Washington, D.C. 20005
(202) 589-3740

Its Attorneys

Dated: August 31, 2001

Lucent Technologies
Bell Labs Innovations



Frank J. Novello
Sales Vice President
Verizon Wireless Customer Team

67 Whippany Road
Room 3A-313
Whippany, NJ 07981 USA

Phone 973 386 7827
Fax 973 381 6642
Pager 800 259 0000 Pin 282304
fnovello@lucent.com

August 20, 2001

Mr. Larry Rybar
Executive Director, Technology Development
And Implementation
Verizon Wireless
30 Independence Blvd.
Warren NJ 07059

Dear Larry,

As you know, Lucent Technologies has revised the dates for delivery of E911 Phase 2 functionality. The decision to revise the FOA plan dates as well as the published availability dates was difficult. In light of this situation, Mike Iandolo, Lucent Technologies Product Management Vice President, has written the attached letter outlining the several problems encountered regarding the delivery of E911 Phase 2 and the revised GA dates.

We understand that the successful delivery of E911 functionality as well as other geolocation services is of paramount importance to Verizon Wireless. Be assured, as evidenced by Mike's letter, that Lucent Technologies is firmly committed to the successful delivery of this application. In addition, as the FOA customer, we will continue to work closely with your team regarding the development schedule, test plans and FOA schedule.

Please call me with any questions or concerns.

Sincerely,

cc: B. Ciotta
L. Shablin
J. Wilson

Attachment



Michael Iandolo
TDMA/CDMA
Product Management
Vice President

Lucent Technologies Inc.
Room 3A385B
Whippany, NJ 07981

Office: 973-386-2897
Facsimile: 973-386-6038
miandolo@lucent.com

August 10, 2001

Lucent Technologies is aware that many carriers have filed extension requests of the E911 Phase II deadlines with the FCC. Accordingly, we are providing you with up-to-date information regarding the availability of our E911 Phase II network compliance features.

While Lucent originally estimated that our E911 network features would be Generally Available (GA) in early September, due to changes in mobile software, limited access to over-the-air test facilities and the availability of Assisted-GPS mobiles, final testing has been delayed. These issues have been resolved and we are now proceeding with the First Office Application (FOA).

The FOA will be conducted using CDMA Software Release 17.1. The new target GA date for the following E911 Phase II compliance features is November 9, 2001:

- **FID 3581.0:** E911 Phase II compliance (j-std-036)
- **FID 3581.1:** CDMA Enhancements for E911 Phase II
- **FID 4403.0:** Flexent Position Determination Equipment (PDE)
- **FID 3581.2:** More CDMA Enhancements for E911 Phase II (This feature helps refine the location of mobiles when a pure GPS fix is not possible.)

Lucent recognizes that E911 Phase II is a vital service for wireless subscribers, enabling quick location identification of a mobile phone user in an emergency. We are committed to providing the appropriate network compliance features in the most expedient manner possible. The new GA date will ensure our solution is well tested, fully integrated with handsets and other components, and standards-compliant before making it available to wireless operators.

Sincerely,

cc: M. Chan