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

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	CC Docket 94-102
To Ensure Compatibility with	)	
Enhanced 911 Emergency	)	
Calling Systems	)	

AT&T WIRELESS SERVICES, INC.
REQUEST FOR LIMITED MODIFICATION OF
E911 PHASE II WAIVER

AT&T Wireless Services, Inc. ("AWS") hereby requests that, pursuant to section 1.41 of the Commission's rules, 47 C.F.R. § 1.41, the Commission grant it a limited modification of the implementation plan approved in AWS's E911 Phase II waiver order for its GSM network.[1/] The modification proposed below satisfies the Commission's standards for waivers of the Phase II rules. It is specific, focused, and limited in scope, presents a clear path to full compliance, and will serve the public interest. Indeed, AWS is not asking for any modification of the Commission's two-stage accuracy requirements, and it plans to achieve 95 percent penetration of E-OTD capable handsets among GSM subscribers by December 31, 2004, a full year earlier than currently required under the Phase II rules.

INTRODUCTION AND SUMMARY

The AWS GSM Waiver Order did not include deadlines by which AWS was required to begin selling E-OTD capable handsets or providing Phase II services to PSAPs. Such requirements were not necessary based on AWS's representations in its initial waiver request

1/ Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Order, FCC 01-294 (rel. Oct. 12, 2001) ("AWS GSM Waiver Order").

that it was "working with handset vendors so that it can provide E-OTD-compatible handsets to GSM customers when AT&T's GSM network comes online" and "working with its infrastructure vendors to require contractually that the GSM infrastructure be E-OTD equipped when installed."[2/] AWS's reasonable expectation, based on its requests to its vendors and their responses to AWS, was that the necessary handsets and network equipment would be available when it was ready to turn up GSM. Despite AWS's best efforts to ensure that this occurred, however, vendors were not ready to deliver the required handsets and other E-OTD equipment when AWS launched GSM service in four markets on October 2, 2001.[3/]

Deploying E-OTD technology is a technically complicated process that requires cooperation and integration among numerous parties. Because all the components of both the handsets and the network infrastructure must work together seamlessly, delays in the availability of any one component can disrupt deployment, even if all the other components are available. The challenges of deploying E-OTD are compounded for AWS because it uses multiple handset and network equipment vendors, whose E-OTD hardware and software must be compatible in

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[2/] See AT&T Wireless Services, Inc. Request for Waiver of the E911 Phase II Location Technology Implementation Rules at 5, CC Docket No. 94-102 (filed April 4, 2001) ("AWS Waiver Request"). See also AWS GSM Waiver Order at ¶ 16.

[3/] AWS began offering commercial GSM service in Seattle, Portland, Las Vegas, and Phoenix on October 2, 2001. While AWS issued press releases announcing that it had "launched its new GSM (Global System for Mobile Communications)/GPRS (General Packet Radio Service) service for business customers in Seattle" in July, this launch was limited to a few channels, available only to enterprise customers (i.e., customers who are part of a larger enterprise or business with a designated sales agent). Commercial launch of the Seattle GSM/GPRS system in fact occurred on October 2, 2001. On October 23, 2001, AWS began offering commercial GSM service in Detroit. In November and December 2001, AWS also began offering commercial GSM service in South Florida, Lansing, Grand Rapids, Chicago, Indianapolis, and Kansas City. The AWS GSM network is still under construction, with additional markets planned for launch in 2002. Coverage in markets already launched is being improved. Construction of a new GSM network also requires new customer activation, billing and operational support systems, which are not yet fully completed. Until completion of the national network and related systems capabilities, marketing of AWS GSM/GPRS services has necessarily been limited.

order to ensure seamless E-OTD service. AWS's deployment of E-OTD has been delayed primarily because the development and delivery of network equipment by AWS's GSM infrastructure vendors has taken more time than originally anticipated. Delays in the availability of network equipment also have delayed the deployment of E-OTD capable handsets, which must be tested on operational E-OTD-equipped networks before they can be sold or otherwise provided to subscribers. Because AWS has been unable to test any E-OTD-capable handsets on a functional E-OTD-equipped network, a limited number of non-E-OTD-capable handsets are being sold to GSM subscribers in the markets where AWS has begun providing service.

Based on the most current commitments from its vendors, AWS anticipates that deployment of E-OTD location capability in AWS's Nokia markets can begin immediately after the first live network testing of the equipment and software is completed in September 2002. Likewise, in AWS's Ericsson markets, deployment is scheduled to begin in October, assuming successful completion of live network tests in September. Wherever possible, AWS plans to stage hardware installation at the same time as software verification and end-to-end network testing in order to reduce the overall time for installation. Based on these vendor commitments, but contingent upon timely delivery of necessary equipment quantities from its vendors, AWS anticipates that E-OTD will be implemented by December 31, 2002 in all areas where it has received valid PSAP requests as of June 30, 2002.

AWS therefore requests that the Commission make the following specific, focused, and limited modifications to its existing E-OTD implementation plan:

(1) In order to address the newly-developed legacy base of non-E-OTD capable handsets, AWS must deploy an NSS solution by December 31, 2002, without regard to PSAP request;

(2) AWS must deploy E-OTD technology in its GSM network by December 31, 2002 for all valid PSAP requests pending as of June 30, 2002, and must implement all valid PSAP requests received after June 30, 2002 within 6 months, as required under the Commission's Phase II E911 rules;

(3) AWS must offer at least one E-OTD-capable GSM handset for sale by September 1, 2002; 50 percent of all new GSM handsets sold and activated must be E-OTD-capable by February 28, 2003; and 100 percent of new GSM handsets sold and activated must be E-OTD capable by June 30, 2003.

AWS is not asking for any modification of the Commission's two-stage accuracy requirements, and it plans to achieve 95 percent penetration of E-OTD capable handsets among GSM subscribers by December 31, 2004, a full year earlier than currently required under the Phase II rules. The Commission's "one objective: the full availability of enhanced 911 by the original deadline established by the Commission"[4/] therefore is still well within reach. The modification proposal also satisfies the Commission's standards for waivers of the Phase II rules. It is specific, focused, and limited in scope, presents a clear path to full compliance, and will serve the public interest. The requested modification should be granted in order to allow AWS and its vendors to move forward and complete the implementation of E-OTD in AWS's network as quickly as possible.

4/ AWS GSM Waiver Order, Separate Statement of Chairman Powell at 1. See also AWS GSM Waiver Order, Separate Statement of Commissioner Abernathy at 2 ("the critical date for E911 Phase II deployment is December 31, 2005 when 95 percent of all handsets must be E911 Phase II compatible and achieve our accuracy requirements.")

DISCUSSION

I. Background

On October 12, 2001, the Commission granted AWS a waiver of its Phase II E911 rules to permit AWS to deploy E-OTD technology for its GSM network.[5/] In the waiver order, the Commission required AWS to ensure that its E-OTD-capable handsets sold and activated as of October 1, 2001 provide ALI with an accuracy of 100 meters for 67 percent of calls and 300 meters for 95 percent of calls,[6/] and its E-OTD-capable handsets sold and activated on or after October 1, 2003 provide ALI with an accuracy of 50 meters for 67 percent of calls and 150 meters for 95 percent of calls.[7/] These accuracy milestones mirror those required of other wireless carriers using E-OTD for their GSM networks.[8/]

Unlike the waivers granted to those other carriers, however, AWS's waiver did not include deadlines by which AWS was required to begin selling E-OTD capable handsets or providing Phase II services to PSAPs.[9/] The absence of such deadlines reflected AWS's representations in its initial waiver request that it was "working with handset vendors so that it can provide E-OTD-compatible handsets to GSM customers when AT&T's GSM network comes online" and "working with its infrastructure vendors to require contractually that the GSM

5/ AWS GSM Waiver Order at ¶ 27.

6/ Id. at ¶ 28.

7/ Id.

8/ Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Fourth Memorandum Opinion and Order, 15 FCC Rcd 17442, ¶¶ 63-64 (rel. Sept. 8, 2000) ("Fourth MO&O"); Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Request for Waiver by Cingular Wireless LLC, CC Docket No. 94-102, Order, FCC 01-296, ¶¶ 29-30 (rel. Oct. 12, 2001) ("Cingular GSM Waiver Order").

9/ Fourth MO&O at ¶¶ 62, 65-66; Cingular GSM Waiver Order at ¶¶ 28, 31.

infrastructure be E-OTD equipped when installed."[10/] AWS's reasonable expectation, based on its requests to its vendors and their responses to AWS, was that the necessary handsets and network equipment would be available when it was ready to turn up GSM. Despite AWS's best efforts to ensure that this occurred, however, vendors were not ready to deliver the required handsets and other E-OTD equipment when AWS launched GSM service in four markets on October 2, 2001.

Deploying E-OTD technology is a technically complicated process that requires cooperation and integration among numerous parties. Because all the components of both the handsets and the network infrastructure must work together seamlessly, delays in the availability of any one component can disrupt deployment, even if all the other components are available. The challenges of deploying E-OTD are compounded for AWS because it uses multiple handset and network equipment vendors, whose E-OTD hardware and software must be compatible in order to ensure seamless E-OTD service. While AWS and its vendors have made tremendous progress towards developing and implementing an E-OTD solution for AWS's GSM network, there is still considerable work to be done.

Network and Handset Interoperability. In order to implement E-OTD, new software and hardware must be installed in the existing network. The Gateway Mobile Location Center ("GMLC")[11/] provides access to the outside network and requires the installation of both new hardware and new software. The Mobile Switching Center ("MSC"), which provides the digital access and cross-connect system, will require new software. The Base Station Controller ("BSC") provides the control and supervisory functions for the base stations. The new hardware

[10/] AWS Waiver Request at 5. See also AWS GSM Waiver Order at ¶ 16.

[11/] The GMLC is a new network element that provides the interface between AWS's network and the PSAP's network. The GMLC triggers the initial positional request and then provides the calculated latitude/longitude information to the PSAP.

and software that must be installed at each BSC includes a Serving Mobile Location Center ("SMLC"), which performs location calculations for E-OTD. The SMLCs capture data from the handset and the relevant network elements (the MSC, the BSC, and the Location Measurement Unit ("LMU"), described below) and compute the positional information when requested by the GMLC. At each individual cell site, a new hardware and software combination referred to as the LMU will be installed. The LMU is a small receiver located at each base station to measure the relative time differences between network elements. A delay in providing any one of these new or upgraded network elements will delay the deployment of E-OTD in the network.

Delays in the availability of network equipment also have a snowballing effect on the deployment of E-OTD capable handsets. Before handsets can be sold or otherwise provided to subscribers, they must be tested on operational E-OTD-equipped networks. At a minimum, AWS will not approve a handset for commercial production and release until it has been subjected to live network tests by one vendor and lab testing by another. As a result, delays in vendor delivery of E-OTD network equipment or software to the AWS Test Lab for verification will delay getting E-OTD-equipped systems up and functioning in the field, and will directly delay the live-network testing and certification of handsets for commercial deployment. Testing handsets for interoperability is not a step that can be glossed over or omitted altogether. If AWS introduced E-OTD handsets before they were fully tested, it could lead to malfunctioning handsets and even serious disruptions to the network in any area where that handset was then used. Because handsets are sold to millions of consumers across the country, the potential for a recall is no substitute for complete testing up-front.

Infrastructure Availability. The multiple infrastructure manufacturers providing AWS with E-OTD technology for its GSM network are Nokia, Ericsson, and Nortel.[12/] In October 2000, AWS began discussions with its vendors regarding overlaying a GSM/GPRS platform on its existing nationwide TDMA network. At this time, and throughout its initial discussions with its vendors regarding the GSM rollout, AWS was assured that the GSM infrastructure would be E-OTD equipped when installed. However, all of AWS's GSM infrastructure vendors have now informed AWS that development of network equipment has taken more time than originally anticipated. Set forth in the chart below are the estimated delivery dates for the E-OTD network hardware and software components described above based on the most recent information AWS has received from its vendors.[13/]

Manufacturer	Estimated Date of Delivery to AWS Test Lab by Vendor
Ericsson	
R9.1 BSC software	6/30/02
LMU-B	6/30/02
SMPC 5.0 software	6/30/02
Nokia	
SMLC software S10 (E5)	4/15/02
LMU (E5) - ultrasites (macrocell)	4/30/02
LMU (E5) - metrosites (microcell)	5/31/02

[12/] Lucent was a committed infrastructure vendor, but has pulled out of the GSM business. With respect to Nortel, AWS expects to receive by March 31, 2002 all necessary software upgrades to MSCs as well as the GMLC software required to support E-OTD. See letter from Bob Riccitelli, Vice President, AWS Account Team, Nortel Networks Inc., to Roderick Nelson, Executive Vice President, Chief Technical Officer, AT&T Wireless Services, Inc., January 24, 2002 ("Nortel letter"), attached hereto as Exhibit A.

[13/] See letter from Dominique Jodoin, Executive Vice President and General Manager, Ericsson Inc., to Roderick Nelson, Executive Vice President, Chief Technical Officer, AT&T Wireless Services, Inc., January 25, 2002 ("Ericsson letter"), attached hereto as Exhibit B; letter from Kari-Pekka Wilson, President, Nokia Inc., to Roderick Nelson, Executive Vice President, Chief Technical Officer, AT&T Wireless Services, Inc., January 25, 2002 ("Nokia letter"), attached hereto as Exhibit C.

These dates represent delivery to AWS for testing in its Test Lab, not the date that they will be available for nationwide deployment. Assuming the equipment from Nokia and Nortel is delivered as estimated, and after the new hardware and software successfully pass AWS lab verification, AWS will conduct a first office application ("FOA") using this equipment, which is currently scheduled to begin in June and end in August. If the network equipment from Ericsson is delivered as expected by June 2002 and successfully passes AWS lab verification, AWS intends to conduct a FOA using the Ericsson equipment in August and September 2002.

For a new technology such as E-OTD, national deployment usually begins after the successful completion of FOA testing. Inevitably, there are lessons learned and problems corrected in FOA testing that significantly affect the success of the widespread rollout of the technology. Because of the importance of implementing Phase II E911 as soon as possible in wireless networks, AWS plans to stage, to the extent possible, the parallel deployment of certain network hardware elements (e.g., LMUs and related antennas and SMLC hardware) in multiple markets prior to FOA completion. By staging hardware installation simultaneously with software verification and FOA testing, AWS hopes to accelerate E-OTD deployment. While FOA testing may uncover hardware and installation issues in addition to software issues, AWS believes the potential risk of reworking some early installation efforts is worth the potential public interest benefits of more rapid Phase II E911 implementation.

Therefore, assuming that no extraordinary problems arise during the Nokia FOA, deployment of E-OTD location capability in AWS's Nokia markets can begin immediately after FOA completion in September 2002. Likewise, in AWS's Ericsson markets, deployment is scheduled to begin in October, assuming successful FOA completion in September. Deploying E-OTD requires installation in switching offices and at cell sites. While cell site modifications

may require local zoning approval or landlord consent, which could increase the time needed for deployment exponentially, AWS generally expects that E-OTD deployment will take 90 to 120 days from the date the FOA is concluded. Wherever possible, AWS plans to stage hardware installation at the same time as software verification and end-to-end network testing (i.e., the FOA) in order to reduce the overall time for installation. Based on the current commitments it has received from its vendors, but contingent upon timely delivery of necessary equipment quantities by vendors, AWS anticipates E-OTD will be fully implemented by December 31, 2002 in all areas where it has received valid PSAP requests as of June 30, 2002.[14/]

Handset Availability. AWS's multiple GSM handset vendors include Ericsson, Motorola, Nokia, Siemens, and RIM. All of these vendors must design and test their products with the equipment being produced by AWS's GSM infrastructure manufacturers. AWS worked diligently with its handset vendors to ensure that E-OTD-capable handsets would be available when AWS's GSM network came online, and to some extent those efforts have been successful. In November 2001, AWS received two models of E-OTD-capable phones from Nokia for testing. AWS began immediately to verify handset-specific hardware and software in its Test Lab. But because of the lack of network equipment described above, AWS has been unable to fully test these handsets and therefore has been unable to make them available to its GSM subscribers.[15/] Motorola also had E-OTD-capable handsets available for initial testing as early as

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[14/] To the degree that any prioritization of those requests is required, AWS will work with its public safety partners on such efforts. Because deploying E-OTD technology is a complicated process that requires cooperation and integration among numerous parties, difficulties could arise in the testing and deployment phases described above that could delay these projections. AWS will keep the FCC fully informed as the E-OTD implementation progresses.

[15/] Nokia letter at 2.

July, but no E-OTD infrastructure vendor had lab testing capability at that time.[16/] Handset vendors have informed AWS that additional E-OTD-capable handsets will be available for testing in the second quarter of 2002.[17/]

Assuming timely delivery of handsets and successful verification in the AWS Test Lab, handsets will be tested on a live network equipped with all E-OTD hardware and software components in the AWS Nokia FOA beginning in June. Assuming that these live network tests are successful, the earliest that any E-OTD-capable handset will be commercially available is August 2002. AWS's discussions with vendors indicate that this schedule is the most aggressive possible for commercial availability of E-OTD handsets, and even this schedule contains multiple dependencies.

Assuming delivery and testing as described above, by September 1, 2002, AWS expects to be able to offer at least one model of E-OTD-capable GSM handset. AWS then expects to have rapidly increasing numbers of E-OTD-capable handsets available to offer its GSM subscribers. AWS anticipates that 50 percent of all new GSM handsets sold and activated by AWS will be E-OTD-capable by February 28, 2003, and 100 percent of all new GSM handsets sold and activated by AWS will be E-OTD capable by June 30, 2003. AWS also believes it can

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[16/] See letter from Brian Kober, Vice President and Director, PCS North American Product Operations, Motorola, Inc., to Roderick Nelson, Executive Vice President, Chief Technical Officer, AT&T Wireless Services, Inc., January 25, 2002 ("Motorola letter"), attached hereto as Exhibit D.

[17/] See, e.g., Motorola letter at 1 ("commercial shipments of fully tested E-OTD terminals could begin in September 2002. This assumes live network testing on all of AWS's infrastructure vendors, specifically Nokia testing starting in April and Ericsson testing in July."); Ericsson letter at 2 ("Sony Ericsson is offering four GSM terminals with E-OTD capabilities, three of which will be available for system verification testing end of Q1/early Q2 2002."); Nokia letter at 2 ("Nokia 8390 is currently E-OTD capable. However, it has to be tested in one live network and at least in one other major infrastructure vendor's lab prior to commercial shipments with E-OTD.").

achieve 95 percent penetration of E-OTD capable handsets among GSM subscribers by December 31, 2004, a full year earlier than currently required under the Phase II rules.

Because AWS has been unable to test any E-OTD-capable handsets on a functional E-OTD-equipped network, however, a limited number of non-E-OTD-capable handsets are being sold to GSM subscribers in the markets where AWS has begun providing service. AWS recognizes that the creation of this limited "legacy" base of handsets, which AWS had hoped to avoid completely, now requires it to implement an interim solution like the network software solution ("NSS") to be used by both VoiceStream and Cingular.[18/] AWS therefore will deploy an NSS solution throughout its network without regard to PSAP request by December 31, 2002.[19/] Even before NSS is deployed, however, AWS's GSM subscribers will enjoy the substantial public safety benefits provided by Phase I E911 service. In every market where AWS has already deployed Phase I service for its TDMA subscribers, Phase I service is being deployed for GSM as the GSM network is built out.[20/]

II. Proposed Modification to Waiver

The failure of AWS's vendors to provide E-OTD-capable network equipment on a timely basis has significantly disrupted AWS's plans to make E-OTD available in its GSM network upon deployment of the initial markets with the GSM air interface. Nevertheless, the Commission's "one objective: the full availability of enhanced 911 by the original deadline

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[18/] See Fourth MO&O at ¶¶ 55-61; Cingular GSM Waiver Order at ¶¶ 20, 32.

[19/] Because NSS operation is dependent upon new software and hardware functionality that is required for full E-OTD implementation, NSS cannot significantly precede E-OTD implementation in the new national GSM network being built by AWS.

[20/] AWS is installing Phase I network capabilities that are compatible with the delivery of Phase II location data from the GMLC to the E911 network.

established by the Commission"[21/] is still well within reach. AWS is not asking for any modification of the Commission's two-stage accuracy requirements, and it plans to achieve 95 percent penetration of E-OTD capable handsets among GSM subscribers by December 31, 2004, a full year earlier than currently required under the Phase II rules.[22/]

For the reasons set forth above, AWS requests that its GSM waiver request be modified as follows:

(1) In order to address the newly-developed legacy base of non-E-OTD capable handsets, AWS must deploy an NSS solution by December 31, 2002, without regard to PSAP request;

(2) AWS must deploy E-OTD technology in its GSM network by December 31, 2002 for all valid PSAP requests pending as of June 30, 2002, and must implement all valid PSAP requests received after June 30, 2002 within 6 months, as required under the Commission's Phase II E911 rules;

(3) AWS must offer at least one E-OTD-capable GSM handset for sale by September 1, 2002; 50 percent of all new GSM handsets sold and activated must be E-OTD-capable by February 28, 2003; and 100 percent of new GSM handsets sold and activated must be E-OTD capable by June 30, 2003.

III. Reasons to Grant Modification Request

In the context of the Phase II E-911 rules, the Commission has stated that requests for waivers may be justified where "technology-related issues" or "exceptional circumstances" make

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[21/] AWS GSM Waiver Order, Separate Statement of Chairman Powell at 1. See also AWS GSM Waiver Order, Separate Statement of Commissioner Abernathy at 2 ("the critical date for E911 Phase II deployment is December 31, 2005 when 95 percent of all handsets must be E911 Phase II compatible and achieve our accuracy requirements.")

[22/] 47 C.F.R. § 20.18(g)(1)(v).

it impossible for a wireless carrier to deploy Phase II services as required under the rules.[23/] In the AWS GSM Waiver Order, the Commission again indicated that it would not entertain changes to the requirements, schedules, and benchmarks imposed in the order absent "extraordinary circumstances."[24/] The Commission has explained that requests for waivers must be "specific, focused and limited in scope, and with a clear path to full compliance."[25/] Generally, the Commission's rules may be waived when there is good cause shown and when "special circumstances warrant a deviation from the general rule, and such a deviation will serve the public interest."[26/] The Commission found that AWS's original request for a waiver in order to deploy E-OTD technology for its GSM network satisfied these standards,[27/] and this modification request does as well.

Technology-Related Issues or Exceptional Circumstances. AWS is requesting three specific modifications to its GSM waiver, each of which is necessary because E-OTD handsets and network equipment were not available in time for E-OTD to be implemented simultaneously with the rollout of AWS's GSM network. In establishing the E911 deadlines the Commission acknowledged that there may be circumstances "where deployment of E911 may not be technically or economically feasible within the five-year deadline."[28/] Lack of handsets and

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[23/] Fourth MO&O at ¶ 43.

[24/] AWS GSM Waiver Order at ¶ 25.

[25/] Id. at ¶ 44.

[26/] Id. at ¶ 43.

[27/] AWS GSM Waiver Order at ¶ 13.

[28/] Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 18676, 18718 ¶ 84 (1996).

equipment is clearly both a technology-related issue and an exceptional circumstance that has prevented AWS from complying with the terms of its original waiver.[29/]

Specific, Focused and Limited in Scope. Each of the requested modifications establishes a specific timetable for achieving the Phase II benchmarks, which reflects the most up to date information regarding E-OTD handset and equipment availability from AWS's vendors. Thus, the requested modifications are specific, focused and limited in scope.

Clear Path to Full Compliance. AWS does not seek any modification of the accuracy requirements set forth in its original waiver or the requirement that 95 percent of all GSM handsets be E-OTD capable by December 31, 2005, but only requests modification of the interim benchmarks the Commission has established. To the contrary, as noted below, AWS believes it can meet the December 31, 2005 milestone a full year in advance. AWS's modification request therefore maintains the "clear path to full compliance" with the Phase II rules set forth in its original waiver.

Modification Will Serve the Public Interest. Granting AWS's modification request will serve the public interest. First, AWS reasonably believes that 95 percent of all GSM handsets will be ALI-capable by December 31, 2004, a full year in advance of the Commission's existing requirement. In addition, AWS will deploy two Phase II solutions -- E-OTD, a highly

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[29/] The Commission recognized the existence of technical barriers that prevented compliance with its rules when it extended the compliance date and then granted waivers of the requirement that digital wireless systems be capable of transmitting 911 calls made using TTY devices. Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, 12 FCC Rcd 22665, 22695 at ¶ 59 (1997). See also PowerSpectrum, Inc, Request for Waiver, 8 FCC Rcd 4452, 4454 ¶ 10 (1993) (granting a waiver due to the complexity of licensee's system and the fact that the technology licensee planned to use was currently under development, making compliance with the Commission's rules impossible); Communications Assistance for Law Enforcement Act (CALEA), Section 107(c) Extension of Capability Requirements, CC Docket No. 97-213, Order, DA 01-2244 (rel. Sept. 27, 2001) (granting extensions because compliance with the assistance capability requirements under section 103 of

accurate handset-based solution for AWS's GSM subscribers, and NSS, a "safety-net" solution that will provide PSAPs with improved information about the location of roamers and others using non-EOTD handsets to call 911. AWS also will offer at least one E-OTD capable handset by September 1, 2002. Denying AWS's modification request will not speed the deployment of Phase II because the modification is necessitated by manufacturing delays and such action will not cause the "miraculous introduction of equipment by manufacturers or any other silver bullet solution."[30/]

Competitive Neutrality. When it initially proposed and adopted the rules for Phase II E-911 services, the Commission "intended and expected that those rules would be technologically and competitively neutral."[31/] Granting the present modification request will continue the Commission's course of ensuring that its Phase II rules are competitively neutral. As the Commission is well aware, AWS's national GSM competitors, VoiceStream and Cingular, are currently providing GSM service using non-E-OTD-capable handsets. While AWS currently has a limited number of customers using non-E-OTD capable handsets, its GSM competitors have millions of customers using such handsets, and while their modification requests are pending, they continue to add GSM subscribers.[32/] AWS likewise should have the ability to roll out its GSM service without having to provide all of its GSM customers with E-OTD capable handsets.

CALEA is not reasonably achievable by telecommunications carriers through application of technology available within the compliance period).

[30/] AWS GSM Waiver Order, Separate Statement of Commissioner Abernathy at 3.

[31/] Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, 14 FCC Rcd 17388 at ¶ 17 (1999).

[32/] For example, VoiceStream "concluded 2001 with a record quarter: The company increased its subscriber base by 668,000 to approximately 7 million." 2001 a Year of Strong Growth for Deutsche Telecom (rel. Jan. 17, 2001) <http://www.telekom.de/dtag/presse/artikel /0,1018,x1449,00.html>. All of these subscribers are using non-E-OTD-capable handsets.

Any other result would violate the principle of competitive neutrality.[33/] As Cingular's and VoiceStream's filings demonstrate,[34/] the lack of E-OTD-capable handsets and network equipment is an industry-wide problem, which the Commission should address on a uniform basis.

Circumstances Beyond AWS's Control. The Commission has repeatedly determined that a waiver is appropriate when noncompliance with a regulatory requirement "is due to circumstances beyond a licensee's control."[35/] AWS is not an equipment or handset manufacturer. It has exercised the limited influence it has over handset and infrastructure vendors to the fullest extent, but to no avail. E-OTD handsets and network equipment simply are not available. Clearly, this is a case where, "but for reasons outside the control of the applicant,"[36/] AWS would have satisfied the requirements of its original waiver. But, as Nokia and Motorola have explained, carriers can only achieve what is technologically and

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[33/] See Green Country Mobilephone, Inc. v. FCC, 765 F2d 235 (DC Cir 1985); Melody Music Inc. v. FCC, 354 F.2d 730 (D.C. Cir. 1965) (Commission must treat similarly-situated licensees the same).

[34/] Petition for Reconsideration filed by Cingular Wireless LLC at 7, 15-17, CC Docket No. 94-102 (November 13, 2001); VoiceStream Wireless Corporation Request for Limited Modification of E911 Phase II Implementation Plan at 4, 16-18, CC Docket No. 94-102 (December 21, 2001).

[35/] See, e.g., McElroy Electronics, 13 FCC Rcd 7921, 7925 ¶ 8 (1998) ("We grant "extensions of construction deadlines when the failure to construct is due to circumstances beyond the licensee's control."); Norris Satellite Application for Review of Order Denying Extension of Time to Construct and Launch Ka-Band Satellite System, 12 FCC Rcd 22299, 22303 ¶ 9 (1997) ("This non-contingent requirement has been strictly construed and only waived when delay in implementation is due to circumstances beyond a licensee's control."); AMSC Subsidiary Corporation Applications to Modify Space Station Authorizations in the Mobile Satellite Service, 8 FCC Rcd 4040, 4042 ¶ 13 (1993) ("milestone extensions are generally granted only when the delay in implementation is due to circumstances beyond the control of the licensee.").

[36/] Licenses of 21st Century Telesis, Inc. for Facilities in the Broadband Personal Communications Services Petition for Reconsideration, 15 FCC Rcd 25113, 25121-22 ¶ 18 (2000).

commercially feasible.[37/] The AWS GSM Waiver Order states that "a carrier's 'concrete and timely' actions taken with a vendor, manufacturer, or other entity," while not excusing noncompliance, may be considered as possible mitigation factors in an enforcement action.[38/] By the same token, AWS respectfully submits that the facts set forth in this modification request provide an ample basis for granting the limited relief sought by AWS.

CONCLUSION

For the reasons set forth above, AWS's request for a limited modification of the implementation plan set forth in its GSM waiver order should be granted.

Respectfully submitted,

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February 1, 2002

37/ See Joint Comments of Nokia Inc. and Motorola, Inc. filed in support of the Petitions for Reconsiderations of Cingular Wireless, Nextel, and Verizon Wireless, CC Docket No. 94-102, at 8 (filed December 19, 2001).

38/ AWS GSM Waiver Order at ¶ 26.

Nortel Networks Inc.
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NORTEL NETWORKS

January 24, 2002

Roderick Nelson
Executive Vice President
Chief Technical Officer
AT&T Wireless Services, Inc.
7277 164th Ave. NE
Redmond, WA 98073-9761

www.nortelnetworks.com

Re: AT&T Wireless Letter dated January 17, 2002

Dear Rod,

In response to your letter of January 17, 2002, Nortel Networks is pleased to provide the requested information in support of AWS communications to the FCC. The planned delivery dates for E-OTD based E911 location capabilities, GSM13 Software and GSM13 Software Patches are as follows:

Product	**Estimated Delivery Date**
MSC – GSM13	Delivered
MSC-GSM13 Patch for SMLCPP	03/01/02
GMLC – MLC2.0	03/31/02

With respect to the support of GMLC 2.0, the interim design of Release 2.0 is complete and approved. Nortel Networks is providing 24 by 7 support and a dedicated GMLC resource is on site. Additionally, Nortel Networks has increased the dedicated support resources to support compression of the GMLC 2.0 testing activity, which is anticipated over the next two weeks. However, Nortel Networks' ability to meet the above dates is dependent on the timely delivery of both AWS and Nortel Networks respective obligations.

In summary, our team is confident that we will easily meet the dates set out above for delivery of the required E-OTD based E911 capabilities in support of AWS deployment of E-OTD based E911 service in the AWS network.

Regards,

Bob Riccitelli
Vice President, AWS Account Team

cc: Lonnie Rosenwald, AWS Counsel
Alese Pantalion, Contracts

B

ERICSSON

January 25, 2002

Roderick Nelson
Executive Vice President
Chief Technical Officer
AT&T Wireless Services, Inc.
7277 16th Ave NE
Redmond, WA 98062

Dear Rod,

This letter is in response to your letter to Mr. Anders Olin, dated January 17, 2002, regarding Ericsson's E-OTD implementation for your GSM/GPRS network. I would like to assure you that Ericsson fully appreciates the urgency of implementing the E-OTD based E911 service for AT&T Wireless' GSM/GPRS network. As demonstrated in our support towards implementing the E911 solution for TDMA, we are committed to working with AWS to achieve this as quickly as possible. Meeting the FCC E911 requirements remains a top priority for Ericsson and Sony Ericsson.

The infrastructure required to implement an E-OTD solution in the Ericsson GSM/GPRS BSS network consists of three components: BSC software, LMU's and an SMLC. In line with our commitments in the latest revision ("C") of the "Ericsson GSM Release 9.1 Fast Track & Release 9.1 Exhibit", Ericsson will deliver these components in MPS-G5 in Release 9.1 Fast Track and subsequently update this functionality in Release 9.1.

MPS-G5 Fast Track includes the release of the Ericsson LMU hardware, the LMU software capable of LMU-A type operation, and the SMLC positioning server functionality.

The FOA for MPS-G 5 (as part of R9.1 Fast Track) can begin in April 2002 with the installation of MPS-G5 and LMU-Type A in AT&T Wireless Services' laboratory in Redmond, Washington. LMU's deliveries for deployment in the AWS GSM/GPRS network can start simultaneously in April 2002. The network FOA will be completed by mid May 2002.

The software to support LMU-B type operations will be delivered as part of R9.1 in June 2002.

A key dependency to ensuring the positioning system meets the requirements is correct LMU installation procedures, as site location may influence accuracy. In order to gain such experience it is recommended that one market is equipped and verified before general rollout. Ericsson proposes to work closely with AWS on establishing this initial market immediately following the lab verification.

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Fax: 425-895-3345

ERICSSON

During 2002, Sony Ericsson is offering four GSM terminals with E-OTD capabilities, three of which will be available for system verification testing end of Q1/early Q2 2002. The E-OTD terminals and their availability dates are:

TARGET SEGMENT/MODEL	TEST UNITS AVAILABLE	VOLUME AVAILABLE
Entry level E-OTD terminal	Q1 2002	Q2 2002
Mid-tier E-OTD terminal (T60g)	Q1 2002	Q2 2002
Mid-tier E-OTD GAIT terminal	Q1 2002	Q2 2002
Prestige E-OTD terminal (T68m)T68	Q2 2002	Q2 2002

In conclusion, Ericsson & Sony Ericsson are committed to achieving the FCC requirements for positioning. Delivery of the system components and terminals that support E-OTD remains a top priority for both of our organizations.

If I can be of further assistance or if you require any further information, please do not hesitate to contact me.

Sincerely,

Dominique Jodoin
Executive Vice President & General Manager
Ericsson Inc.

Ref. No. EUS/RC-02:0012 A

NOKIA

KARI-PEKKA WILSKA
President, Nokia Inc.
Senior Vice President and General Manager
Nokia Mobile Phones, Americas

January 25, 2002

Mr. Roderick Nelson
Executive Vice President
Chief Technical Officer
AT&T Wireless Services Inc.
16331 NE 72nd Way
Redmond, WA 98052

Re: Nokia's E911 (E-OTD) Implementation in GSM network and handsets

Dear Rod:

Thank you for your letter of January 17th 2002. This letter details Nokia's commitment to availability of E-OTD based E911 service implementation in both Nokia's GSM networks and GSM handsets. The information presented is based on our current best understanding of the situation on part of multivendor testing and live network availability at 850/100 MHz bands. Nokia fully understands the urgency of getting this service available for AT&T Wireless Services' customers and will do whatever possible to further expedite the schedules given below.

GSM network infrastructure:

- E-OTD lab test data has been available to us since end of November 2001. The test data is from a Finnish GSM operator Radiolinja.
- Nokia's E911 system capability using Nokia end-to-end solution with commercial software package is targeted to be available April 15th 2002. The desired PSAP interface specifications need to be defined.
- Pre-commercial hardware and software for E-OTD testing will be available 1Q2002, prior to commercial software package.
- E-OTD system rollout with commercial products at 1900 MHz band can start in April 2002, using Nokia GSM system with UltraSite base stations. Nokia MetroSite Base stations include E-OTD functionality May 2002 onwards.
- The LMU hardware availability for 850 MHz band is targeted for May 2002, making the Nokia E911 system solution fully 850/1900 MHz dual band capable.
- Nokia commits that E-OTD network capability can be made available by December 2002 to all jurisdictions that receive a PSAP request by June 2002, provided that:
    - Systems are rolled out during the time period from June 2002 to December 2002 (re. 850 MHz availability)
    - The area in question is both a Nokia NSS and Nokia BSS area
    - The PSAP interface specification issues are resolved in time.

NOKIA
6000 Connection Drive
Irving, Texas 75039
Tel. 972 894 4813
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- Regarding multi-vendor cases, Nokia is actively working to test the interoperability with other infrastructure vendors. Naturally the availability of E-OTD in multi-vendor networks will only be available after Nokia system availability. We encourage all system vendors to open up their E-OTD interfaces to expedite the multi-vendor testing and multi-vendor network E911 service availability.

GSM Handsets:

- Nokia 8390 is currently E-OTD capable. However, it has to be tested in one live network and at least in one other major infrastructure vendor's lab prior to commercial shipments with E-OTD.
    - Live network test availability is dependent on carriers' network rollout. We currently believe this live network will be available by end 1Q2002.
    - Lab testing can be done as soon as another major infrastructure vendor is available, preferably one of AWS's current suppliers.

- Once testing is available, approximately 3 months will be needed for testing, verification and approvals. Our current best estimate for commercial shipments of GSM 1900 MHz E-OTD capable phones is mid 2002.
- For GSM 850 MHz the above steps will have to be repeated. Separate live network testing will be required, as well as separate lab testing. We currently believe that live network testing availability at 850 Mhz will be available 3Q2002. Testing, verification and approvals are estimated to take 6-8 weeks, since learnings from 1900 MHz testing can be utilized.

We hope the above clarifies Nokia's capability and commitment to make E911 service available to AT&T Wireless Services' customers. Please let us know if further information is required.

Sincerely,

pp Kari-Pekka Wilska
President, Nokia Inc.

Cc: Pekka Vartiainen
Tim Eckersley
Paul Chellgren
William Plummer
Kai Oistamo
Jeff Devine
Terri Beck

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D

MOTOROLA

Mr. Roderick Nelson
Executive Vice President
Chief Technical Officer
AT&T Wireless Services

January 28, 2002

Dear Mr. Nelson:

Motorola has been and remains committed to doing everything in its power to make E-OTD terminals available to AWS as soon as possible. Motorola's original target date for the availability of E-OTD terminals was September 15, 2001. While our E-OTD terminals were ready for initial testing in early July 2001 (in plenty of time to complete necessary testing to meet the September 15 target), there were no infrastructure vendors with Radio Resource Location Protocol (RRLP) interoperability testing lab capability until September 11, 2001. Consequently, for reasons wholly beyond our control, we were not able to begin testing until September 11, 2001 and thus could not meet the September 15 target.

Based on this, and the most recent information we have regarding interoperability and live network testing timing, we now have the following estimated schedule for testing and commercial availability of our first E-OTD terminal.

- We estimate that commercial shipments of fully tested E-OTD terminals could begin in September 2002. This assumes live network testing on all of AWS's infrastructure vendors, specifically Nokia testing starting in April and Ericsson testing in July.

In summary, Motorola's terminals are available for both lab and live network testing now, but network infrastructure components are not available from network infrastructure vendors to facilitate the testing. The date shown above for commercial availability strongly depends on a positive outcome of both interoperability lab testing and live network testing in the timeframes shown. Motorola will work with AWS, and AWS's infrastructure providers, wherever possible to optimize these dates.

Please feel free to contact me with any further questions on this subject.

Sincerely,

Brian Kober
Motorola, Inc.
Vice President and Director
PCS North American Product Operations

Personal Communications Sector
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CERTIFICATE OF SERVICE

I, Michelle Mundt, hereby certify that on the 1st day of February 2002, I caused copies of the foregoing "Request for Limited Modification of E911 Phase II Waiver" to be sent to the following by either first class mail, postage pre-paid, or by hand delivery, by messenger(*) to the following:

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