

SEP 14 2001

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

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

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

**Cellular Mobile Systems of St. Cloud, LLC Petition for Limited Waiver of Sections 20.18(e) and (g) of the Commission's Rules**

Cellular Mobile Systems of St. Cloud, LLC ("CMS"), pursuant to Sections 1.3 and 1.925 of the Rules and Regulations of the Federal Communications Commission ("FCC" or "Commission"),<sup>1</sup> hereby requests a limited and temporary waiver of Section 20.18(e) and (g) of the Commission's rules.<sup>2</sup> CMS is fully committed to providing E911 location capability to meet the emergency needs of its customers and continues to devote substantial resources and personnel to its pursuit of Phase II E911 ("Phase II") compliance. However, deployment of Phase II capability has been particularly difficult for CMS due to obstacles it has faced in its attempts to obtain the Phase II handset, cell site, network signaling, switching and location equipment, and software upgrades necessary to make Phase II a reality prior to the Commission's October 1, 2001 deadline. Specifically, vendor delays in the availability of Phase II compliant network solutions and Phase II capable handsets have made compliance with Section 20.18(g)(1)(i) impossible to date, and make such compliance by October 2001 in most of CMS's service area improbable if not unattainable. Without the general availability of Phase II

<sup>1</sup> 47 C.F.R. §§ 1.3 and 1.925.

<sup>2</sup> 47 C.F.R. §§ 20.18(e) and (g).

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equipment, CMS will be unable to meet the October 1, 2001 deadline in most of its service area and respectfully requests an extension as outlined below.<sup>3</sup>

**I. CMS Is Unable to Meet the FCC's October 1 Handset Availability Deadline Due to Factors Outside of Its Control**

CMS is a small cellular carrier providing service in rural Minnesota (St. Cloud, Minnesota Metropolitan Statistical Area 198, Channel Block B). CMS has been working diligently with its main supplier, Nortel, to develop a Phase II solution for its service area. As CMS reported in its November 9, 2000 report, CMS has been exploring a hybrid solution for its TDMA operation to be provided by Nortel. The technology uses both cell sector identification and Global Positioning System ("GPS") technology. The location technology also uses a locating function within or as an overlay to the wireless network infrastructure using a combination of Time Difference of Arrival ("TDOA") and Angle of Arrival ("AOA") functions. CMS's Phase II solution will require a new software load in its switch, hardware changes consisting of a new processor for its switch and assorted cell site upgrades, as well as automatic location information ("ALI")-capable handsets. As discussed in detail below, vendor-associated delays in delivery of each of these elements will prevent CMS from meeting its relevant Phase II deadlines in the vast majority of its service area.

CMS has ordered an upgrade to its software in the form of the Nortel MTX09 feature addition and will add location center hardware in order to transmit Phase II data

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<sup>3</sup> CMS plans to use a network-based solution in the few areas of its rural network where cell site density might make a network-based solution technically possible. In such areas, CMS does not anticipate that a waiver will be necessary. CMS notes that it has yet to receive, nor does it expect to receive in the near future, a Phase II request from the Public Safety Answering Points ("PSAP") that it serves.

to PSAPs.<sup>4</sup> According to its latest timeline,<sup>5</sup> Nortel promises that the MTX09 upgrade will be delivered in December 2001. However, Nortel will not begin testing of the upgrade and related equipment until February 2002. CMS is also upgrading its mobile switch as part of its efforts and Nortel expects to have the new switch functioning by March 15, 2002.<sup>6</sup> Accordingly, absent unexpected advances in Nortel's schedule, CMS does not anticipate having the ability to process Phase II data until April 2002 at the earliest.

CMS has investigated the potential product offerings of many different Phase II vendors in addition to Nortel, including those offered by Tendler, SCC Communications, Technocom Corporation, GTE Telecommunications Services, Cell-Loc, True Position, US Wireless, and SigmaOne Communications Corporation. CMS has selected Nortel based on its network's compatibility with Nortel products and because the Nortel product appears to be the most robust solution available at the earliest date.

To meet the Commission's ALI requirements, CMS also requires an upgrade to its hardware infrastructure in the form of its Nortel processor. Based on CMS's previous experiences, delays in the delivery of hardware can last up to nine months after such hardware first becomes available.<sup>7</sup> Additionally, several wireless carriers have reported

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<sup>4</sup> In general, the following hardware and software is needed to transmit Phase II data to PSAPs: IS41C – Dialed Number Trigger, E911 Software, MPC – Mobile Positioning Center, PDE – Position Determining Entity, and receivers at each cell site.

<sup>5</sup> See Attachment 1.

<sup>6</sup> *Id.*

<sup>7</sup> CMS's experiences are consistent with those of other carriers. See, e.g., Inland Cellular Petition for Waiver at 6 (small carriers can expect to see generally available technology six to nine months after vendors deliver ALI-capable technology to the large, nationwide carriers). As Inland Cellular pointed out in its waiver petition, small carriers face "unique difficulties and obstacles" when attempting to contact national vendors. Inland Cellular Petition for Waiver at 1.

in their Phase II waiver petitions that Nortel, CMS's switch and network equipment vendor, will not have the necessary upgrades ready until the end of Q1 2002 or the beginning of Q2 2002.<sup>8</sup> After successful installation of the necessary equipment, CMS will have to test all of the upgrades – a process that generally takes six to eight weeks.<sup>9</sup> With the unsated demand for Phase II technology building and the large nationwide carriers competing for equipment, CMS does not realistically expect delivery of the necessary Phase II hardware until at least nine months after the products first appear on the market.<sup>10</sup> In fact, even large carriers are reporting six-month lags between the availability of equipment and delivery, installation, and testing.<sup>11</sup>

While CMS will be unable to process Phase II data without the Nortel upgrade, it is the unavailability of ALI-capable handsets that is likely to cause the most serious delays to CMS's Phase II compliance plans. CMS plans to integrate the Nortel network upgrades with ALI-capable handsets. Unfortunately, as discussed below, CMS's Phase II upgrade efforts have been stymied by a general lack of availability of ALI-capable handsets.

As a small carrier without substantial market clout with vendors, CMS is forced, in many cases, to base its handset plans on second-hand information on product delivery dates and details of what products will be available for purchase. Even Western Wireless, a huge rural carrier in comparison with CMS, notes that it “does not have the clout to dictate the production of new handsets with [ALI] capability.”<sup>12</sup> This process

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<sup>8</sup> See, e.g., Qwest Petition for Waiver at 16.

<sup>9</sup> *Id.*

<sup>10</sup> See, e.g., Inland Cellular Petition for Waiver at 6.

<sup>11</sup> See, e.g., Cingular Petition for Waiver at 27.

<sup>12</sup> See Western Wireless Petition for Waiver at 12.

makes it difficult for CMS to accurately predict the date when it can begin selling ALI-capable handsets to its customers. CMS's main supplier of handsets, Nokia, has informed CMS that it has no plans to develop an ALI-capable handset for TDMA networks. *See* Attachment 2. CMS has contacted its other handset manufacturer, Motorola, and has yet to receive a response. CMS is now pursuing contacts with other handset makers such as Kyocera. As Cingular documented in its waiver request, many major handset vendors such as Nokia, Motorola, and Panasonic have abandoned TDMA development efforts.<sup>13</sup> Most ALI technology vendors, such as Tendler, have noted that they would be delighted to sell their ALI technology if it were readily available. Unfortunately, not only is the Tendler handset solution unavailable at this time, but large carriers are placing orders, pushing small carriers such as CMS to the back of the line. Even if Tendler were able to commit to a general availability date for its equipment, the economic incentive for Tendler to fill 500,000 Verizon orders rather than a few thousand for CMS will most certainly lead to additional delays beyond any such date. CMS, based on its experiences and confirmed by other small carriers,<sup>14</sup> expects a six to nine month delay after vendors first deliver ALI-capable handset technology to the large, nationwide carriers before such equipment is made available to CMS.

CMS is aware of only one handset solution that may be commercially available. According to Airbiquity's testimony to Congress, its ALI product is commercially available. CMS has investigated the Airbiquity solution, and has ruled it out based on technical incapability. The Airbiquity product appears to be capable of working only with certain model Nokia products. Since Nokia has abandoned TDMA networks and

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<sup>13</sup> Cingular Petition for Waiver at 20.

CMS must find handset vendors with ALI-capable TDMA products, Airbiquity is not a practical solution to CMS's Phase II handset obligations.

CMS, like many carriers that serve rural areas, has ruled out a purely network-based Phase II solution.<sup>15</sup> CMS's investigation of network-based solutions has confirmed that triangulation-based location solutions do not work well in less densely populated rural areas, where cell sites are scarce. In fact, the Commission has confirmed the "distinct challenges" that rural carriers such as CMS face in implementing Phase II requirements.<sup>16</sup> CMS will use TDOA and AOA where it can,<sup>17</sup> but must rely heavily on ALI-capable handsets to meet the FCC's Phase II accuracy standards. In the CMS network, an E911 caller is not always within the range of multiple cells. In addition, many of CMS's cell sites are spaced in straight lines (by roadways, for example), making triangulation a geometric impossibility.<sup>18</sup> CMS will continue to work with Nortel on its hybrid solution, but cannot achieve full Phase II compliance in the majority of its service area without ALI-capable handsets.

## **II. CMS Satisfies the Relevant Standards for Waiver of the Commission's Rules**

Under Section 1.3 of its rules, the Commission may waive any provision of its rules if good cause is shown.<sup>19</sup> The Commission must take a "hard look"<sup>20</sup> and then

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<sup>14</sup> See, e.g., Inland Cellular Petition for Waiver at 6.

<sup>15</sup> See, e.g., AT&T Petition for Waiver at 33.

<sup>16</sup> See, e.g., *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, Fifth Memorandum Opinion and Order, 15 FCC Rcd. 22810, ¶ 21 (2000) ("*Fifth MO&O*").

<sup>17</sup> As discussed above, CMS hopes to use a network-based solution where cell site density in CMS's rural network makes TDOA and AOA possible.

<sup>18</sup> See, e.g., *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, ¶ 23 (1999) ("*Third R&O*").

<sup>19</sup> 47 C.F.R. § 1.3.

decide if such a waiver is in the public interest.<sup>21</sup> The Commission has already recognized that wireless carriers may face difficulties in meeting the October 1, 2001 deadline to comply with Sections 20.18 (e) and (g) of its rules. In the FCC's *Fourth Memorandum Opinion and Order* ("Fourth MO&O"),<sup>22</sup> the Commission recognized that there would be instances when "technology-related issues" or "exceptional circumstances" would cause a delay in a wireless carrier's ability to meet the October 1, 2001 deadline to become Phase II compliant.<sup>23</sup> Such recognition is consistent with the Commission's acknowledgement that "bringing a new product to market requires manufacturers to undertake a time-consuming series of complex steps."<sup>24</sup> Manufacturers, although racing to meet carrier demand, have yet to overcome the technological complexities in order to make ALI-capable handsets available in time for carriers to meet the FCC's deadlines. The requested waiver is consistent with the Commission's recognition that compliance deadlines should be linked to the availability of manufacturer equipment.<sup>25</sup>

The Commission also indicated that a petition for waiver must be "specific, focused and limited in scope, and with a path to full compliance."<sup>26</sup> CMS's waiver

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<sup>20</sup> *Wait Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969).

<sup>21</sup> *Northeast Cellular Telephone Company, L.P., et al v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

<sup>22</sup> *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, *Fourth Memorandum Opinion and Order*, 15 FCC Rcd. 17442 (2000) ("Fourth MO&O").

<sup>23</sup> *Id.* at ¶ 43.

<sup>24</sup> GARMIN International, Inc., *Order on Reconsideration*, DA 01-851 at ¶ 5.

<sup>25</sup> See, e.g., *Implementation of Section 17 of the Cable Television Consumer Protection and Competition Act of 1992; Compatibility Between Cable Systems and Consumer Electronics Equipment*, 9 FCC Rcd. 1981 ¶¶ 76-77 (1994) (modifying a proposed compliance deadline to account for the unavailability of necessary equipment).

<sup>26</sup> *Fourth MO&O* at ¶ 44.

petition is specific, narrow in scope, and provides the Commission with CMS's past efforts and future plans to satisfy the FCC's Phase II requirements. Moreover, as set forth below, the instant petition satisfies the applicable waiver standards.

Section 1.925(b)(3) of the Commission's rules sets out the general standards for determining when a waiver should be granted in Wireless Telecommunications Bureau proceedings:

The Commission may grant a request for waiver if it is shown that:

- (i) The underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; or
- (ii) In view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.<sup>27</sup>

Under both of these standards, grant of the requested waiver is warranted.

Application of the Section 20.18(g) handset deadline to CMS would be inequitable in light of the lack of availability of ALI-capable handsets, a factor outside of CMS's control. The unavailability of such handsets, combined with the technical incompatibility of a network-based solution in the vast majority of its service area, leaves CMS with no reasonable alternative but to seek a waiver.

Grant of the requested waiver is consistent with both the public interest and the underlying purpose of the Commission's Phase II rules in Section 20.18. The Commission's extension of the original March 1, 2001 implementation date to October 1, 2001 balanced the need for an expeditious rollout of Phase II services with the

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<sup>27</sup> 47 C.F.R. § 1.925(b)(3).

Commission's recognition that Phase II chip manufacturers such as Qualcomm had been experiencing delays, making compliance by the original deadline infeasible.<sup>28</sup> In setting the October 1 deadline, the FCC relied on the anticipated availability of the necessary equipment. As discussed herein, it is now clear that the handset equipment required to meet the October 1 deadline will not be available in time to allow CMS to meet this deadline. A temporary limited waiver of Section 20.18(g)(1)(i) is entirely consistent with the underlying purpose of the establishment of the October 1 deadline.

### **III. Schedule for Compliance**

CMS requests a waiver, based upon the following timetable, of the FCC's October 1, 2001 deadline to "begin selling and activating" handsets and the Commission's related benchmark deadlines contained in Section 20.18(g). CMS's schedule is based on its experiences and contacts with vendors and publicly available information regarding handset availability. Based upon its own inquiries and confirmed in other carrier's waiver requests,<sup>29</sup> CMS believes the earliest and most optimistic date by which the large, nationwide carriers will see delivery of ALI-capable handsets is by December 2001.<sup>30</sup> Accounting for expected delays before such handsets reach a small carrier such as CMS and necessary testing,<sup>31</sup> CMS does not expect to be capable of

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<sup>28</sup> *Fourth MO&O* at ¶ 33.

<sup>29</sup> *See, e.g., Qwest Petition for Waiver* at 15.

<sup>30</sup> As discussed above, the Airbiquity solution that works only with the Nokia phones that CMS must abandon is not a reasonable alternative.

<sup>31</sup> CMS notes that testing typically takes approximately six weeks. Without the necessary time to fully test a solution, or without the proper technology for CMS's rural region, CMS's Phase II solution could fail, undermining public confidence in wireless E911. CMS does not want to offer the sense of security that the offering of Phase II location technology will ultimately provide until it has a proven system. A rushed and inoperable system will not benefit the public.

selling and activating handsets prior to October 2002. While CMS hopes to begin selling and activating handsets prior to October 2002, CMS has no firm basis to believe that it will have the necessary handsets by this date. Accordingly, CMS requests that the deadline for CMS to begin selling and activating handsets be extended to October 1, 2002, the 25 percent benchmark be extended until December 31, 2002, that the 50 percent benchmark be extended until June 30, 2003, and that the 100 percent benchmark be extended until December 31, 2003. CMS also requests that the 95 percent penetration rate deadline be extended until December 31, 2006.

#### **IV. Conclusion**

Based on the foregoing, CMS respectfully requests that the Commission grant CMS a temporary waiver of Sections 20.18(e) and (g) of its rules and permit CMS to implement the handset component of its Phase II solution based on the schedule set forth herein.

Respectfully submitted,

**CELLULAR MOBILE SYSTEMS  
OF ST. CLOUD, LLC**

By: Michael Bennet

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Its Attorneys

Dated: September 14, 2001

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### DMS100 w/15K Ports and Power Preliminary Project Schedule

ID	Task Name	% Comp	Duration	Start	Finish	Predecessor	August	September	October	November
							Aug	Sep	Oct	Nov
1	<b>MTX (08 &amp; 09) Software Upgrade</b>	0%	68 days	Mon 09/03/01	Wed 12/05/01					
2	Purchase Order (PO)	0%	2 days	Mon 09/03/01	Tue 09/04/01		Customer			
3	<b>MTX08 Software Upgrade (TDMA/CDMA)</b>	0%	38 days	Wed 09/05/01	Mon 10/29/01					
40	<b>MTX09 Software Upgrade (TDMA/CDMA)</b>	0%	66 days	Wed 09/05/01	Wed 12/05/01					
77										
78	<b>New DMS MTX &amp; BSC</b>	0%	110 days	Mon 09/03/01	Fri 02/01/02					
79	Schedule Request Form (SRF)	0%	5 days	Mon 09/03/01	Fri 09/07/01		Nortel			
80	Purchase Order (PO)	0%	5 days	Mon 09/03/01	Fri 09/07/01		Customer/Nortel			
81	Contract signed	0%	0 days	Mon 09/03/01	Mon 09/03/01		09/02			
82	Project Kick-off	0%	5 days	Mon 09/10/01	Fri 09/14/01					
85	DCI - Distributed CI	0%	5 days	Mon 09/17/01	Fri 09/21/01	83		Nortel/Customer		
86	Assign/deliver training data to customer	0%	5 days	Mon 09/24/01	Fri 09/28/01	80,81,85		Nortel		
87	Site Engineering	0%	10 days	Mon 09/24/01	Fri 10/05/01					
91	Network and RF Studies	0%	9 days	Mon 09/03/01	Thu 09/13/01					
94	Software/Database (MTX-NBSS)	0%	93 days	Mon 09/17/01	Wed 01/23/02					
106	Specification/Manufacturing	0%	30 days	Mon 10/08/01	Fri 11/16/01					11/16
109	Ship material to site (D data)	0%	11 days	Mon 11/12/01	Mon 11/26/01					
113	Building Readiness Milestones (Switchroom ready checklist)	0%	50 days	Mon 09/03/01	Fri 11/09/01					
168	Installation start (H date) (DMS/MTX & BSC)	0%	49 days	Tue 11/27/01	Fri 02/01/02					11/27
179										
180	<b>Traffic Cutover to new MTX</b>	0%	77 days	Thu 11/29/01	Fri 03/15/02					
181	Project Information	0%	20 days	Thu 11/29/01	Wed 12/26/01					
184	Cutover Plan & MOP	0%	27 days	Thu 12/27/01	Fri 02/01/02	181				
188	Cutover & In-service (IS)	0%	16 days	Mon 02/04/02	Mon 02/25/02					
192	Post K / In-Service Support	0%	30 days	Mon 02/04/02	Fri 03/15/02	178				
195										
196	<b>Deinstall &amp; Decommission Old MTX</b>	0%	51 days	Mon 02/25/02	Tue 05/07/02	191				
197	Program Start	0%	20 days	Mon 02/25/02	Mon 03/25/02					
205	Specification	0%	10 days	Tue 03/26/02	Mon 04/08/02					
207	Deinstallation	0%	51 days	Mon 02/25/02	Tue 05/07/02					
213	Customer deinstall equipment	0%	20 days	Tue 04/09/02	Mon 05/06/02	206				
217										
218	<b>Traffic Cutover (NPCS to Benton DMS-10)</b>	0%	30 days	Mon 05/20/02	Fri 06/28/02					
219										
220	<b>Deinstall Wireline Frames from Sprint Switch</b>	0%	51 days	Fri 06/28/02	Mon 09/09/02	218				
221	Program Start	0%	20 days	Fri 06/28/02	Fri 07/26/02					
229	Specification	0%	10 days	Mon 07/29/02	Fri 08/09/02					
231	Deinstallation	0%	51 days	Fri 06/28/02	Mon 09/09/02					
237	Customer deinstall equipment	0%	20 days	Mon 08/12/02	Fri 09/06/02	230				
241										
242	<b>MTX Software Upgrade on Sprint Switch</b>	0%	40 days	Tue 09/10/02	Mon 11/04/02	220				

Project: C1-Project1  
Date: Tue 09/04/01

Task		Milestone		Rolled Up Split		External Tasks		Deadline	
Split		Summary		Rolled Up Milestone		Project Summary			
Progress		Rolled Up Task		Rolled Up Progress		External Milestone			

## ATTACHMENT 2

-----Original Message-----

**From:** Palacios Michael (NMP/Dallas) [mailto:Michael.Palacios@nokia.com]  
**Sent:** Monday, September 10, 2001 11:32 AM  
**To:** snies@cell-2000.com  
**Cc:** Clayton Chris (NMP-Sales/Dallas)  
**Subject:** FW: E-911 Capabilities/GPS handsets

Hello Shannon,

Chris asked me to fill you in on your question about availability of GPS handsets with E911 location functionality.

Nokia Mobile Phones is committed to working with our carrier customers to provide solutions that meet the E911 Phase 2 mandate. We had in the past actively pursued development of a GPS SAMPS solution for one of our TDMA handset development programs. More recently, we have put this development on hold. In our assessment of the viability of handset based Phase 2 solutions (GPS/SAMPS) for TDMA systems, we have determined that including the GPS/SAMPS functionality in the upcoming handset would not be practical. We based this conclusion on a number of factors, including 1) lack of stated SAMPS support from infrastructure vendors, 2) little to no interest from the greater TDMA market for handset based E911 solutions, 3) low interest and commitment from the carrier community in general for handset-based GPS solutions, and 4) the general movement within the carrier community towards other types of E911 Phase 2 solutions.

At this time, therefore, we have no near-term handset offering that satisfies E911 Phase 2 requirements for TDMA networks employing a handset based location solution. If market factors change the current environment, however, we are certainly amenable to re-investigating handset products with GPS functionality. In the interim, we continue to support technologies such as E-OTD for E911 location solutions.

Nokia is committed to providing you the best support and products possible; if you have comments or suggestions, please feel free to provide input. Please also be aware that information stated or referred to in connection with this description of Nokia's products is not a binding obligation for Nokia; this description is a reasonable estimate only. Product plans, related time scales, and other information are based upon our current understanding of existing standards, technologies and market situations, and upon our internal plans for the development and supply of terminals for sale to the open market. Because standards, technology and market situations may change, our plans are also subject to change. Final product deployment may include different features, different technologies and different timelines.

I hope the information above answers your question. If we can be of assistance by supporting a request for an extension from the FCC, or if you have further questions, please do not hesitate to contact me at any time.

**Michael Palacios**  
Business Development Manager  
Emerging Technologies  
Nokia Mobile Phones  
(972) 374 0688

### DECLARATION OF WILLIAM CASTO

I, William Casto, do hereby declare under penalty of perjury the following:

1. I am the President and Chief Executive Officer of Cellular Mobile Systems of St. Cloud, LLC.
2. I have read the foregoing "Petition for Limited Waiver of Sections 20.18(e) and (g) of the Commission's Rules." I have personal knowledge of the facts set forth therein, and believe them to be true and correct.



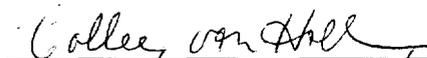
William Casto

9/13/01

Date

**CERTIFICATE OF SERVICE**

I, Colleen von Hollen, do hereby certify that on this 14<sup>th</sup> day of September 2001, a copy of the foregoing Petition for Limited Waiver of Sections 20.18(e) and (g) of the Commission's Rules was served by hand delivery to the following parties:

  
Colleen von Hollen

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