

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

In the Matter of	)	
	)	
Amtech Systems, LLC	)	File No. SES-MOD-20060614-01011
	)	
Application for Modification to Extend Term of	)	Call Sign: E990316
Earth Station Authorization	)	
	)	

**ORDER AND AUTHORIZATION**

Adopted: January 26, 2007

Released: January 26, 2007

By the Chief, Satellite Division, International Bureau:

**I. INTRODUCTION**

1. In this Order, we grant Amtech System, LLC's (Amtech) request<sup>1</sup> to extend the term of its authorization to operate 30,000 half-duplex mobile earth terminals (METs) in the lower L-band,<sup>2</sup> using the AMSC-1 and MSAT-1 satellites operated by Mobile Satellite Ventures (MSV) through July 2, 2010.<sup>3</sup> At the same time, we grant Amtech an extension of an accompanying waiver of Footnote US315 to the U.S. Table of Frequency Allocations (Table of Allocations) and of Section 25.136(d) of the Commission's rules.<sup>4</sup> Grant of this extension will permit Amtech to continue to provide mobile satellite service (MSS) to its customers in the United States while it transitions to METs capable of full compliance with the Commission's standards for real-time priority and preemptive access that are designed to ensure the integrity of maritime safety communications.

**II. BACKGROUND**

2. Amtech is currently authorized to operate up to 30,000 half duplex METs in the lower L-band, using the AMSC-1 and MSAT-1 satellites. Under the requirements of Footnote US315 to the Table of

<sup>1</sup> Amtech Application for Modification of Satellite Earth Station, IBFS File No. SES-MOD-20060614-01011.

<sup>2</sup> The "L-band" is a general designation for frequencies from 1 to 2 GHz. In this Order and Authorization, however, the term "L-band" denotes only the 1545-1559 MHz and 1646.5-1660.5 MHz frequency band ("upper L-band") and the 1525-1530 MHz, 1530-1544 MHz, and 1626.5-1645.5 MHz frequency bands ("lower L-band"). The United States is the only country that distinguishes between the "upper" and "lower" L-band.

<sup>3</sup> This license was assigned from Vistar Datacom, Inc. (Vistar) to Amtech Systems Corporation on February 2, 2004. See FCC File No. SES-ASG-20031117-01629; Satellite Communications Services Information, *Public Notice*, SES-00575 (released Feb. 4, 2003). In September 2005, Amtech notified the Commission, through counsel, that it had converted from a Delaware corporation to a limited liability company and changed its corporate name from Amtech Systems Corporation to Amtech Systems LLC. See *Amtech Systems Corporation/Amtech Systems LLC Notification of Conversion from Delaware Corporation to Delaware Limited Liability Company*, Call Signs E990316 and E030120, Letter to Office of the Secretary, FCC (Sept. 22, 2005).

<sup>4</sup> 47 C.F.R. § 25.136(d), 47 C.F.R. § 2.106, Footnote US315.

Allocations<sup>5</sup> and Section 25.136(d) of the Commission's rules, these terminals must operate on a secondary basis relative to the Global Maritime Distress and Safety System (GMDSS). In addition, all terminals in the lower L-band other than GMDSS terminals are required to allow the GMDSS "real-time preemptive access," or in other words, such terminals must be capable of ceasing transmissions immediately upon demand of a GMDSS user.

3. The Commission has determined that full compliance with Footnote US315 is not possible for half-duplex METs, because such a transmission cannot be interrupted once it has started.<sup>6</sup> The Commission has not adopted a definite time limit for transmissions by half-duplex terminals. However, the National Telecommunications and Information Administration (NTIA) has indicated to the Commission that, generally, if a terminal is capable of, among other things, ceasing transmissions and inhibiting further transmissions within one second, that terminal would be considered to meet the real time preemption requirement.<sup>7</sup>

4. In 2002, the Commission adopted a policy of considering temporary waivers of Footnote US315 for half-duplex terminals, on a case-by-case basis.<sup>8</sup> The Commission explained that, because half-duplex transmissions are often of very short duration, many half-duplex terminals are consistent with the spirit although not the letter of the real-time preemption requirement.<sup>9</sup> The Bureau granted a temporary waiver of Footnote US315 to Amtech's predecessor-in-interest in 2002.<sup>10</sup> Because of the importance of safety-related communications, however, the Commission has declined proposals to waive the provisions of Footnote US315 for half-duplex METs in the lower L-band on a permanent basis.<sup>11</sup>

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<sup>5</sup> Footnote US315 to Section 2.106 of the Commission's rules imposes the following requirements on MSS operations in the lower L-band: "in the frequency bands 1530-1544 MHz and 1626.5-1645.5 MHz maritime mobile satellite distress and safety communications, e.g., GMDSS, shall have priority access with real-time preemptive capability in the mobile-satellite service. Communications of mobile satellite system stations not participating in the GMDSS shall operate on a secondary basis to distress and safety communications of stations operating in the GMDSS. Account shall be taken of the priority of safety-related communications in the mobile satellite service." 47 C.F.R. § 2.106, Footnote US315. Footnote 5.353A imposes substantially similar requirements. See 47 C.F.R. § 2.106, Footnote 5.353A.

<sup>6</sup> See Establishing Rules and Policies for the Use of Spectrum for Mobile Satellite Service in the Upper and Lower L-band, *Report and Order*, IB Docket No. 96-132, 17 FCC Rcd 2704, 2717 n.65 (2002) (*Lower L-band Order*).

<sup>7</sup> *Lower L-band Order*, 17 FCC Rcd at 2742 (para. 41), citing Letter from William T. Hatch, Associate Administrator, NTIA, to Donald Abelson, Chief, International Bureau, FCC, filed August 25, 2000.

<sup>8</sup> *Lower L-band Order*, 17 FCC Rcd at 2741-42 (para. 41).

<sup>9</sup> *Lower L-band Order*, 17 FCC Rcd at 2717 n.65, citing Application of AMSC Subsidiary Corporation for Modification of its Blanket License to Construct and Operate 30,000 L-Band Mobile Earth Stations, *Order and Authorization*, 10 FCC Rcd 10458 (Int'l. Bur., 1995); Application of Rockwell International Corporation for Modification of its Blanket License to Construct and Operate 30,000 L-Band Mobile Earth Stations, *Order and Authorization*, 10 FCC Rcd 10952 (Int'l. Bur. 1995).

<sup>10</sup> Vistar Data Communications, Inc., *Order and Authorization*, 17 FCC Rcd 12899, 12902-03 (paras. 10-13) (Int'l Bur. 2002) (*Vistar Order*). At that time, Amtech's predecessor-in-interest was granted a waiver of Footnote US315 for purposes of operating 20,000 half-duplex terminals for two years. *Vistar Order*, 17 FCC Rcd at 12903 (paras. 14-16). The Bureau later extended this waiver for another two years, and increased the number of half-duplex terminals from 20,000 to 30,000. Satellite Communications Services Information, Actions Taken, *Public Notice*, Report No. SES-00612 (released June 9, 2004).

<sup>11</sup> See *Lower L-band Order*, 17 FCC Rcd at 2720 (para. 37).

5. On June 14, 2006, Amtech filed an application to extend the license term for its 30,000 half-duplex METs for four additional years, until July 2, 2010, and an extension of its waiver of US315 to the Table of Allocations and Section 25.136(d).<sup>12</sup> Amtech's application was placed on public notice on June 28, 2006.<sup>13</sup> Other than a letter filed by the National Telecommunications Information Administration (NTIA) endorsing the extension request, subject to certain conditions,<sup>14</sup> no comments were filed. In this Order, we conclude that, subject to the conditions set forth herein, grant of the license extension and accompanying waiver request sought by Amtech will serve the public interest.

### III. DISCUSSION

6. *Background.* Since the time it was initially granted a waiver of US315 on July 2, 2002,<sup>15</sup> Amtech claims that it and its predecessors-in-interest have not received any indication that their operations in the lower L-band have interfered with marine broadcasts.<sup>16</sup> Amtech therefore maintains that allowing it to operate for an additional four years will not increase the likelihood of possible harmful interference with maritime safety systems operating in the lower L-band.<sup>17</sup> Furthermore, Amtech observes that it has started to deploy METs in its network that meet NTIA's one-second-preemption policy.<sup>18</sup> Amtech also indicates now that the maximum shutdown time of any of Amtech's METs is 15 seconds and the average shutdown time of its non-one-second compliant METs is 7 seconds.<sup>19</sup> Finally, Amtech contends that grant of its application and waiver request will allow it to continue to serve its customers as it transitions to bring its METs into compliance with the National Telecommunications and Information Administration's (NTIA's) one-second-preemption policy and the requirements of Footnote US315 of the Commission's rules.<sup>20</sup>

7. NTIA supports the grant of Amtech's request for a four-year extension of its license term and waiver to operate 30,000 half-duplex METs, subject to certain conditions.<sup>21</sup> Specifically, NTIA requests that the waiver last only until July 2, 2010 and only apply to communications with the AMSC-1 and MSAT-1 satellites. Thus, if those satellites cease operations before July 2, 2010, the waiver of the table of

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<sup>12</sup> *Amtech System, LLC Application*, Attachment B.

<sup>13</sup> *Amtech System, LLC Application Accepted for Filing, Public Notice*, Report No. SES-00832 (released June 28, 2006).

<sup>14</sup> See Letter from Jim Vorhies, Acting Program Manager, Spectrum Plans, NTIA, to Robert G. Nelson, Chief, Satellite Division, International Bureau, Federal Communications Commission, dated July 17, 2006 (*NTIA Approval Letter*).

<sup>15</sup> *Vistar Order*, 17 FCC Rcd at 12902 (para. 9).

<sup>16</sup> *Amtech Application*, Attachment B at 3.

<sup>17</sup> *Amtech Application*, Attachment B at 3.

<sup>18</sup> *Amtech Application*, Attachment B at 4 n.7.

<sup>19</sup> *Amtech Application*, Attachment B at 3.

<sup>20</sup> *Amtech Application*, Attachment B at 3-4. In this application, Amtech does not seek, and we do not grant, authorization for use of full duplex METs. This order is limited to an extension of the term for the existing 30,000 half-duplex METs.

<sup>21</sup> *NTIA Approval Letter*.

allocations and section 25.136(d) would not extend to communications with any replacement satellites without Commission authorization.

8. *Discussion.* As noted above, in connection with its extension request, Amtech seeks a waiver of the priority and preemption requirements of Footnote US315 of the Table of Allocations<sup>22</sup> and Section 25.136(d) of the Commission's rules.<sup>23</sup> Section 1.3 of the Commission's rules authorizes the Commission to waive its rules for "good cause shown."<sup>24</sup> Waiver is appropriate only if special circumstances warrant a deviation from the general rule and such deviation would better serve the public interest than would strict adherence to the general rule.<sup>25</sup> Generally, the Commission may grant a waiver of its rules in a particular case only if the relief requested would not undermine the policy objective of the rule in question and would otherwise serve the public interest.<sup>26</sup>

9. In considering a request for non-conforming spectrum uses, the Commission has indicated that it would generally grant such waivers "when there is little potential for interference into any service authorized under the Table of Allocations and when the non-conforming operator accepts any interference from authorized services."<sup>27</sup> In addition, the Commission has decided to consider waivers of Footnote US315 in cases where a waiver will be sufficient to ensure that GMDSS in the lower L-band will be protected.<sup>28</sup> Based on the record in this proceeding, we find that an extension of Amtech's waiver of Footnote US315 would meet these two criteria, provided that we place the appropriate conditions on the waiver we grant here.

10. As an initial matter, we find it unlikely that the preemptive capability of Amtech's half-duplex terminals will adversely affect maritime safety, based on Amtech's observation that its operations have not caused harmful interference to other marine broadcasts in the lower L-band.<sup>29</sup> In an abundance of caution, however, we will adopt NTIA's recommendation to limit this waiver to communications with MSV's AMSC-1 and MSAT-1 satellites. In addition, we will require that the spectrum used in connection with the METs authorized herein be limited to spectrum that MSV has coordinated for these two satellite

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<sup>22</sup> As noted above, US315 provides that MSS systems not participating in the GMDSS may not interfere with maritime mobile-satellite service distress and safety communications that also operate in the lower L-band.

<sup>23</sup> Section 25.136(d) also provides that "Any mobile earth station (MES) associated with the Mobile Satellite Service operating in the 1530-1544 MHz and 1626.5-1645.5 MHz bands shall have the following minimum set of capabilities to ensure compliance with Footnote S5.353A and the priority and real time preemption requirements imposed by Footnote US315." 47 C.F.R. § 25.136(d).

<sup>24</sup> See Section 1.3 of the Commission's rules, 47 C.F.R. §1.3. See also *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969) (*WAIT Radio*); *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1166 (D.C. Cir. 1990) (*Northeast Cellular*).

<sup>25</sup> See *Northeast Cellular*, 897 F.2d at 1166.

<sup>26</sup> See *WAIT Radio*, 418 F.2d at 1157.

<sup>27</sup> *Fugro-Chance, Inc., Application for Blanket Authority to Construct and Operate a Private Network of Receive-Only Mobile Earth Stations, Order and Authorization*, 10 FCC Rcd 2860 (para. 2) (1995) (authorizing non-conforming mobile-satellite service in the C-band). See also *Motorola Satellite Communications, Inc., Application for Modification of License, Order and Authorization*, 11 FCC Rcd 13952, 13956 (para. 11) (1996) (authorizing service to fixed terminals in bands allocated to the mobile-satellite service).

<sup>28</sup> See *Lower L-band Order*, 17 FCC Rcd at 2741-42 (para. 41).

<sup>29</sup> *Amtech Application*, Attachment B at 3.

systems. Moreover, Amtech's METs must comply with the Commission's requirements for out-of-band emissions for mobile terminals operating in the L-band.<sup>30</sup> Finally, we limit the term of the extension to July 2, 2010 in this case, consistent with the Commission's policy of authorizing terminals that do not meet the real-time priority and preemptive access guidelines for only a temporary period.<sup>31</sup>

11. We also find that the particular METs at issue in this proceeding will adequately protect GMDSS transmissions in the lower L-band. Initially, when Amtech's predecessor-in-interest was granted a license for half-duplex terminals in 2002, those terminals had a maximum shutdown time of 20 seconds.<sup>32</sup> Amtech has decreased its maximum shutdown time to 15 seconds, and the average shutdown time of its non-one-second compliant METs is 7 seconds.<sup>33</sup> Thus, Amtech has significantly increased the speed of its preemptive access capabilities. Furthermore, Amtech observes that it has started to deploy METs in its network that meet NTIA's one-second-preemption policy.<sup>34</sup> Grant of this waiver will serve the public interest by allowing Amtech to continue to serve its customers as it transitions to METs that comply with NTIA's one-second-preemption policy and the requirements of Footnote US315 of the Commission's rules. These considerations, together with the fact that Amtech is not seeking to operate additional METs or new frequencies, persuade us that a waiver of US315 and Section 25.136(d) for the additional period of time is warranted, provided that we condition the waiver on it continuing to meet the 15-second maximum shutdown time stated in its application.

#### IV. ORDERING CLAUSES

12. Accordingly, IT IS ORDERED that, the application of Amtech System, LLC to extend the license term of its Earth Station authorization, E990316, is GRANTED and that Amtech System, LLC IS AUTHORIZED to operate 30,000 METs on a non-common carrier basis in the 1626.5-1645.5 MHz and 1530-1544 MHz frequency bands through the AMSC-1 satellite at 101° W.L. and the MSAT-1 satellite at 106.5° W.L. to provide mobile satellite service in the United States, in accordance with the technical specifications set forth in its application and its Radio Station Authorization, and consistent with the Commission's rules, subject to the conditions set forth below:

- a. Amtech System, LLC must comply with the out-of-band emission limits for mobile earth terminals set forth in 47 C.F.R. § 25.216.
- b. Amtech System, LLC's authorization is limited to a term ending July 2, 2010, or at the end of the useful life of the AMSC-1 satellite at 101° W.L. and the MSAT-1 satellite at 106.5° W.L., whichever is earlier.

13. IT IS FURTHER ORDERED that, Amtech System, LLC is GRANTED a waiver of the real-time priority and preemptive access requirements of Footnotes US315 and 5.353A to Section 2.106 and Section 25.136(d) of the Commission's rules, 47 C.F.R. §§ 2.106, Footnotes US315 and 5.353A, 25.136(d), for the term of the license.

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<sup>30</sup> See 47 C.F.R. § 25.216.

<sup>31</sup> See *Lower L-band Order*, 17 FCC Rcd at 2720 (para. 37).

<sup>32</sup> *Vistar Order*, 17 FCC Rcd at 12902 (para. 9).

<sup>33</sup> *Amtech Application*, Attachment B at 3.

<sup>34</sup> *Amtech Application*, Attachment B at 4 n.7.

14. IT IS FURTHER ORDERED that, Amtech System, LLC's MET operations shall be limited to spectrum in each direction of the 1626.5-1645.5 MHz and 1530-1544 MHz band coordinated for the satellite(s) being accessed in the most recent annual L-band operator-to-operator agreement.

15. IT IS FURTHER ORDERED that, Amtech System, LLC's operation of its 30,000 METs is on a secondary basis to safety and distress communications of those stations operating in the Global Maritime Distress Satellite Service.

16. IT IS FURTHER ORDERED that, Amtech System, LLC's MET operations shall meet the real-time priority and preemptive access limits set forth in its application, IBFS File No. SES-MOD-20060614-01011, including the requirement that all METs will be capable of preemption for maritime safety systems within no more than 15 seconds.

17. IT IS FURTHER ORDERED that, Amtech System, LLC be afforded thirty days to decline this authorization. Failure to respond within this period will constitute formal acceptance of the authorization.

18. This Order is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon release.

FEDERAL COMMUNICATIONS COMMISSION



Robert G. Nelson  
Chief, Satellite Division  
International Bureau