

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

In the Matter of	)	
	)	
GeoLogic Solutions, Inc.	)	File No. SES-MOD-20060124-00090
	)	
Application for Modification to Extend Term	)	Call Sign: E900081
of Earth Station Authorization	)	
	)	

**ORDER AND AUTHORIZATION**

**Adopted: May 31, 2006**

**Released: May 31, 2006**

By the Chief, Satellite Division, International Bureau:

**I. INTRODUCTION**

1. In this Order, we grant GeoLogic Solutions, Inc.'s (GeoLogic) request<sup>1</sup> to extend the term of its authorization to operate 50,100 half-duplex mobile earth terminals (METs) in the lower L-band, using the AMSC-1 and MSAT-1 satellites, for an additional four years through July 2, 2010. At the same time, we grant GeoLogic an accompanying waiver of footnote US315 to the U.S. Table of Frequency Allocations (Table of Allocations) and of section 25.136(d)<sup>2</sup> of the Commission's rules. Grant of this extension will permit GeoLogic 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. GeoLogic<sup>3</sup> is currently authorized to operate up to 50,100<sup>4</sup> half duplex METs in

<sup>1</sup> GeoLogic Application for Modification of Satellite Earth Station, IBFS File No. SES-MOD-20060124-00090 (*GeoLogic Application*).

<sup>2</sup> 47 C.F.R. 25.136(d).

<sup>3</sup> GeoLogic's MET licenses were formerly held by Mobile Satellite Ventures Subsidiary, LLC (MSV). GeoLogic is the successor entity to the transportation division of Aether Systems, Inc. (Aether), an entity that distributed half-duplex METs using the Earth and space segment licensed to MSV. On December 5, 2005, the Commission granted the application of MSV and GeoLogic for assignment of MSV's MET licenses to GeoLogic. *See* Mobile Satellite Ventures Subsidiary, LLC Application for Consent to Assignment, IBFS File No. SES-ASG-20050829-01187 (granted December 5, 2005); *see also* Satellite Communication Services Information, Actions Taken, *Public Notice*, Report No. SES-00773 (rel. December 7, 2005).

<sup>4</sup> In 1995, the Commission released two orders collectively authorizing MSV to operate 15,100 METs in the lower L-band in half-duplex mode. *See AMSC Subsidiary Corporation*, Order and Authorization, 10 FCC Rcd 10458 (1995); *see also AMSC Subsidiary Corporation*, Order on Reconsideration, 11 FCC Rcd 5527 (1995). In 1996, the Commission granted MSV's request to acquire an additional 18,000 half-duplex METs from Rockwell International (continued....)

the lower L-band, using the AMSC-1 and MSAT-1<sup>5</sup> satellites. In our last order extending the term of this authorization for two years, the Commission also acknowledged that the half-duplex METs did not comply with the requirement that MSS safety systems may not interfere with maritime mobile-satellite service distress and safety communications that also operate in the lower L-band. These real-time priority and preemptive access requirements are found in footnote US315 to the Table of Allocations<sup>6</sup> and Section 25.136(d) of the Commission's rules. Based on MSV's showing that the integrity of maritime safety and distress signals could be maintained with the appropriate restraints on its half duplex transmissions, however, we granted a limited extension of the authorization for two years and a waiver of the requirements US315. At that time, we stated that the limited two year term would encourage manufacturers to continue to develop and deploy new technology capable of full compliance with US315.<sup>7</sup>

3. On January 24, 2006, GeoLogic filed an application to extend the license term for its 50,100 half-duplex METs for four additional years, until July 2, 2010, and a corresponding waiver of US315 to the Table of Allocations for four additional years.<sup>8</sup> GeoLogic maintains that allowing it to operate for an additional four years, until July 2, 2010, will not increase the likelihood of possible harmful interference with maritime safety systems operating in the lower L-band.<sup>9</sup> According to GeoLogic, neither GeoLogic, nor its predecessor, Aether, has received any indication that their operations in the lower L-band have interfered with marine broadcasts, since the Commission first granted it a waiver of US315 in 1995.<sup>10</sup> Finally, GeoLogic maintains

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Corporation. As a result of this grant, MSV was authorized to operate 33,100 half-duplex METs in the lower L-band. See MSV Request for Modification of Blanket License, IBFS File No. 179-DSE-MP/L-97. In 2002, the Satellite Division of the International Bureau (the Division) granted MSV regular authority for a term of two years to operate the 33,100 half-duplex mobile earth terminals, that it was then operating on a temporary basis, in the lower L-band. In addition, the Division declined MSV's request to operate an additional 36,900 METs in the L-band. See Mobile Satellite Ventures Subsidiary, LLC to Modify Blanket License Authorization to Operate up to additional 36,900 Mobile Earth Terminals in the L-Band and Request for Special Temporary Authority, *Memorandum Opinion and Order*, 17 FCC Rcd 12894 (2002). In the 2004 MSV Reconsideration Order, the Division granted MSV authority to operate an additional 17,000 half-duplex METs in the lower L-band via the AMSC-1 satellite, for a term of two years. See Mobile Satellite Ventures Subsidiary, LLC Application to Modify Blanket License Authorization to Operate Up to an Additional 36,900 Mobile Earth Terminals in the L-Band and Request for Special Temporary Authority, *Memorandum Opinion, Order and Authorization*, 19 FCC Rcd 4672 (2004) (*MSV Reconsideration Order*). As noted above, in 2005, the authorization was transferred to GeoLogic. Thus, as of 2005, GeoLogic had authority to operate 50,100 METs in the lower L-band.

<sup>5</sup> See Mobile Satellite Ventures Subsidiary, LLC, Applications for Modification of Licenses to Permit Mobile Earth Terminals Fixed Earth Stations to Communicate Using Either the AMSC-1 or MSAT-1 Satellites, *Order and Authorization*, 16 FCC 20934 (2001).

<sup>6</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.

<sup>7</sup> See *MSV Reconsideration Order* at 4674.

<sup>8</sup> *GeoLogic Application*, Attachment B at 4-5.

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

<sup>10</sup> *GeoLogic Application*, Attachment B at 5.

that grant of its application will allow it to continue to serve its customers as it transitions to full duplex METs, which will fully comply with the real-time and priority access requirements of US315.<sup>11</sup> Geologic's application was placed on public notice on February 1, 2006.<sup>12</sup> Other than a letter filed by the National Telecommunications Information Administration (NTIA) endorsing the extension request, subject to certain conditions,<sup>13</sup> no comments were filed.

### III. DISCUSSION

4. In this Order, we conclude that, subject to the conditions set forth herein, grant of the four-year license extension and accompanying waiver request sought by GeoLogic will serve the public interest. As explained below, the preemptive capability of GeoLogic's half-duplex terminals has significantly improved since the last renewal of its license. Thus, grant of GeoLogic's request will permit it to continue to provide a valuable service while at the same time ensuring that the public interest purpose of the maritime safety systems preemptive access requirement is served.

5. Pursuant to Section 2.102 of the Commission's rules, the assignment, authorization, and use of frequencies and bands of frequencies between 9 kHz and 275 GHz shall be in accordance with the Table of Allocations.<sup>14</sup> As noted above, in connection with its extension request, GeoLogic seeks a waiver of the priority and preemption requirements of footnote US315 of the Table of Allocations.<sup>15</sup> These requirements are also incorporated by reference in Section 25.136(d) of the Commission's rules.<sup>16</sup> Section 1.3 of the Commission's rules authorizes the Commission to waive its rules for "good cause shown."<sup>17</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>18</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

<sup>11</sup> *GeoLogic Application*, Attachment B at 7. In this application, GeoLogic 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 50,100 half-duplex METs.

<sup>12</sup> Satellite Communication Services Information, Satellite Radio Applications Accepted for Filing, *Public Notice*, Report No. SES-00790 (rel. February 1, 2006).

<sup>13</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 February 28, 2006 (*NTIA Approval Letter*).

<sup>14</sup> 47 C.F.R. § 2.102(a). Certain exceptions are specified in Section 2.102, none of which are at issue herein.

<sup>15</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>16</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>17</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>18</sup> See *Northeast Cellular*, 897 F.2d at 1166.

serve the public interest.<sup>19</sup> 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>20</sup>

6. NTIA supports the grant of GeoLogic’s request for a four-year extension of its license term to operate 50,100 half-duplex METs, subject to certain conditions.<sup>21</sup> Specifically, NTIA requests that the following conditions apply to GeoLogic’s half-duplex terminals: (1) the spectrum used by the METs must be limited to the 2.0 megahertz of spectrum that MSV has coordinated for its satellite and no additional spectrum will be requested or used, (2) no more than the already authorized 50,100 half-duplex METs will be used, (3) the authorization will expire in four years but no later than the end of the useful life of AMSC-1 and MSAT-1 satellites, and (4) the METs will be capable of preemption for maritime safety systems within no more than 10.34 seconds.<sup>22</sup>

7. At this time, GeoLogic’s half-duplex terminals do not fully comply with the real-time priority and preemptive access requirements of US315 and the provisions of Section 25.136(d). However, due to a new protocol, the MAP protocol, introduced by GeoLogic in 2005,<sup>23</sup> as well as increasing reliance on terrestrial networks,<sup>24</sup> GeoLogic has made significant improvements in preemption times.<sup>25</sup> According to GeoLogic, approximately 80 percent of its satellite messages are short messages (e.g., less than 240 characters/2 data packets) sent over signaling channels, which further reduces the amount of time where preemption may be required.<sup>26</sup> Furthermore, to the extent that preemption is required, GeoLogic maintains that the average preemption time for METs using the new protocol introduced in June of 2005 is 3.56 seconds.<sup>27</sup> GeoLogic states that this is nearly 6.5 seconds faster than the shortest preemption capabilities of GeoLogic’s METs in 2004.<sup>28</sup> GeoLogic also indicates that the average

<sup>19</sup> See *WAIT Radio*, 418 F.2d at 1157.

<sup>20</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>21</sup> *NTIA Approval Letter*.

<sup>22</sup> *Id.*

<sup>23</sup> The 2005 MAP protocol is “a software and registration process that enables the use of the signaling channel for short outbound data messages to be delivered faster than would be possible using Standard C protocol.” See Letter from Tom Davidson, Counsel for GeoLogic Solutions, Inc. to Marlene H. Dortch, Secretary, FCC (May 23, 2006).

<sup>24</sup> GeoLogic indicates that in half-duplex METS with a GPRS module, more than 80% of all message traffic transmitted by these METS is transmitted terrestrially. *Geologic Application*, Attachment B at 8.

<sup>25</sup> *GeoLogic Application*, Attachment B at 5-7.

<sup>26</sup> *GeoLogic Application*, Attachment B at 6.

<sup>27</sup> *GeoLogic Application*, Attachment B at 6.

<sup>28</sup> GeoLogic states that approximately 19,000 of its current generation METs are using the new protocol and that GeoLogic expects to upgrade virtually all of its 36,000 currently deployed METs by the end of the second quarter of 2006. See *GeoLogic Application* at 7. In the 2004 *MSV Reconsideration Order*, we stated that most of the spectrum

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preemption time for all of GeoLogic's METS, regardless of the protocol used, is 4.9 seconds. Finally, GeoLogic indicates that the maximum amount of time necessary for preemption of all of its METS is 10.34 seconds.<sup>29</sup>

8. Based upon the record before us, we find it unlikely that the preemptive capability of GeoLogic's half-duplex terminals will adversely affect maritime safety. Moreover, given GeoLogic's showing that it has significantly increased the speed of its preemptive access capabilities since 2004, coupled with the fact that GeoLogic is not seeking to operate additional METs or new frequencies; we find that a waiver of US315 and Section 25.136(d) for four additional years is warranted. According to GeoLogic, it expects that its full duplex METs, which will be fully compliant with US315, and for which authority to operate will be separately sought, will be commercially available by the end of 2006.<sup>30</sup> Thus, grant of this waiver will allow GeoLogic to continue to serve its customers while allowing it the time necessary to transition to full duplex METs.

9. This limited license term will allow GeoLogic to continue to serve customers, including the United States Government, which uses GeoLogic's METs for public safety and homeland security functions,<sup>31</sup> pending its transition to full duplex METs that are fully compliant with US315 and Section 25.136(d). Limiting the term to four years, however, is consistent with our concern that the terminals do not meet the real-time priority and preemptive access guidelines, and such METs should be authorized only for a temporary period and requests for waivers of US315 and 25.136(d) be evaluated on a case-by-case basis.

10. Finally, we will require that the spectrum used in connection with the METs authorized herein be limited to the 2.0 megahertz of the spectrum that MSV has already coordinated for its system.<sup>32</sup> In addition, GeoLogic's METs must comply with the Commission's requirements for out-of-band emissions for mobile terminals operating in the L-band.<sup>33</sup>

#### IV. ORDERING CLAUSES

11. Accordingly, IT IS ORDERED that, the application of GeoLogic Solutions, Inc. to extend the license term of its Earth Station authorization, E900081, is GRANTED and that GeoLogic Solutions, Inc. IS AUTHORIZED to operate 50,100 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

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used by MSV's half-duplex "METs can be made available within less than 12 seconds and all of it in no more than 48 seconds." *MSV Reconsideration Order* 19 FCC Rcd at 4674.

<sup>29</sup> See Letter from Tom Davidson, Counsel for GeoLogic Solutions, Inc. to Marlene H. Dortch, Secretary, FCC (May 22, 2006). See also *Geologic Application*, Attachment B at 6, footnote 16.

<sup>30</sup> See *GeoLogic Application*, Attachment B at 7-11. We agree with GeoLogic, that the continued use of its current generation of half-duplex METs for an additional four year term will further the efficient use of satellite resources pending its transition to full duplex METs.

<sup>31</sup> See *Geologic Application*, Attachment B at 9.

<sup>32</sup> See *NTIA Approval Letter*.

<sup>33</sup> See 47 C.F.R. § 25.216.

in the United States for a term of four years, or until the end of the useful life of the satellites, whichever is sooner, 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.

12. IT IS FURTHER ORDERED that, GeoLogic Solutions, Inc. is GRANTED a waiver of the real-time priority and preemptive access requirements of Footnote US315 to Section 2.106 and Section 25.136(d) of the Commission's rules, 47 C.F.R. §§ 2.106, 25.136(d), and ITU Radio Regulation 5.353A, for the term of the license.

13. IT IS FURTHER ORDERED that, GeoLogic Solutions, Inc.'s MET operations shall be limited to the 2.0 megahertz of 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, and that no additional spectrum will be requested or used.

14. IT IS FURTHER ORDERED that, GeoLogic Solutions, Inc.'s operation of its 50,100 METs is on a secondary basis to safety and distress communications of those stations operating in the Global Maritime Distress Satellite Service.

15. IT IS FURTHER ORDERED that, GeoLogic Solutions, Inc.'s MET operations shall meet the real-time priority and preemptive access limits set forth in its application, IBFS File No. SES-MOD-20060124-00090, including the requirement that all METs will be capable of preemption for maritime safety systems within no more than 10.34 seconds.

16. IT IS FURTHER ORDERED that, GeoLogic Solutions, Inc. be afforded thirty days to decline this authorization. Failure to respond within this period will constitute formal acceptance of the authorization.

17. 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