

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

In the Matter of	)	
	)	
Inmarsat Mobile Networks, Inc.	)	
	)	
Applications to Modify Licenses for	)	IBFS File Nos. SES-MOD-20081224-01717,
Earth Stations E080059, Paumalu, Hawaii and	)	SES-AMD-20090116-00052
KA 25, Paumalu, Hawaii	)	(Call Sign E080059)
	)	
Petition for Clarification or Reconsideration	)	IBFS File Nos. SES-MOD-20081224-01718,
	)	SES-AMD-20090116-00053
	)	(Call Sign KA25)

**ORDER**

**Adopted: May 20, 2015**

**Released: May 20, 2015**

By the Chief, Satellite Division, International Bureau:

**I. INTRODUCTION**

1. By this Order, we grant in part, and deny in part, the petition of Inmarsat Mobile Networks, Inc. (Inmarsat) to clarify or reconsider the conditions imposed on the above-referenced earth station modification applications.<sup>1</sup> In the applications, Inmarsat requested a waiver of Section 25.202(g) of the Commission's rules to allow Inmarsat to conduct its telemetry, tracking, and command (TT&C) operations at the center of the conventional C-band. The Satellite Division granted the waiver subject to conditions, including that Inmarsat coordinate its use of the conventional C-band TT&C frequencies with adjacent satellite operators, and that Inmarsat's use of these frequencies for TT&C be on a non-interference basis. Inmarsat requests that the conditions be modified or revised. We agree in part, and modify the conditions for the waiver of 25.202(g) as discussed below.

**II. BACKGROUND**

2. In December 2008, Inmarsat applied to modify the authorizations of two earth stations located in Paumalu, Hawaii.<sup>2</sup> In both applications, Inmarsat requested authority to perform TT&C operations in the center of the conventional C-band (3945-3955 MHz and 6338-6342 MHz frequency bands) with the Inmarsat 4F1 space station at 143.5° E.L. and the Inmarsat 4F3 space station at 97.65°

<sup>1</sup> On December 31, 2014, Inmarsat Hawaii, Inc. completed its *pro forma* transfer of control of earth stations E080059 and KA25 to Inmarsat Mobile Networks, Inc. Letter to Marlene H. Dortch, Secretary FCC, from Bruce A. Henoch, General Counsel, Inmarsat (Jan. 9, 2015). Although the petition was filed by Inmarsat Hawaii, Inc., in this Order we will refer to the licensee by its new name.

<sup>2</sup> Inmarsat filed amendments to both applications to correct certain equivalent isotropically radiated power (EIRP) and EIRP density parameters with respect to emission designators for telemetry, tracking and command functions in the 6338-6342 MHz band specified in the modification applications. IBFS File Nos. SES-AMD-20090116-00053 (Call Sign KA25) and SES-AMD-20090116-00052 (Call Sign E080059).

W.L.<sup>3</sup> Because Section 25.202(g) of the Commission's rules requires TT&C operations to be in either or both ends of the frequency bands in which the satellite system is providing service, Inmarsat requested a waiver of the rule.

3. In July 2009, the Satellite Division granted both of Inmarsat's applications and waived Section 25.202(g) of the Commission's rules. The waivers for each authorization were subject to the following conditions:

- (a) Inmarsat must coordinate its operations with space stations operating within 6 degrees of the Inmarsat 4F1 and 4F3 space stations<sup>4</sup>;
- (b) Notwithstanding the International Coordination Status, Inmarsat's operations must be on non-interference basis, *i.e.*, Inmarsat may not cause harmful interference to, or claim protection from, any authorized space stations operating in the conventional C-band frequencies, and shall cease operations immediately upon notification of such interference.
- (c) In the event Inmarsat is notified of interference, it may request special temporary authority to operate TT&C under an alternate plan.
- (d) Within 90 days of the grant of this authorization, Inmarsat must file with the Commission a comprehensive plan detailing how it will protect other authorized operators using the C-band frequencies. This plan should specify Inmarsat's power levels, and include a list of all parties with which Inmarsat has coordination agreements.
- (e) Inmarsat must accommodate future space station and earth station networks that are compliant with Section 25.202(g).<sup>5</sup>
- (f) The uplink antenna size for this earth station must be no less than (16) meters.<sup>6</sup>

4. On August 14, 2009, Inmarsat filed a petition asking the Division to clarify or reconsider certain conditions associated with the waiver of Section 25.202(g) for the two Hawaiian earth station authorizations. Inmarsat stated it does not object in principle to a requirement that it coordinate with space stations operating within 6 degrees, but maintained that coordination is a "two way street" and therefore it should only be required to *seek* coordination in good faith because it cannot ensure successful completion of coordination negotiations. Inmarsat also claimed the condition that it conduct its TT&C operations on a non-interference basis is inconsistent with the coordination requirement because the purpose of coordination is to establish mutually acceptable levels of interference between two or more systems. Inmarsat stated this condition is also inconsistent with the Commission's policy expressed in the *Intelsat Order*<sup>7</sup> in which the Commission determined that a waiver of Section 25.202(g) is appropriate where spacecraft are already operational and cannot be modified to use alternate TT&C frequencies.

5. Consequently, Inmarsat requests that the conditions of its authorizations be revised to state that Inmarsat must seek to coordinate in good faith its operations with space stations operating within 6 degrees of the Inmarsat 4F1 and 4F3 space stations and, in the absence of a coordination

---

<sup>3</sup> For Earth Station E080059, Inmarsat also requested authority to allow automatic frequency compensation pilot carrier transmissions in the L-band (1525-1544 MHz, 1545-1559 MHz and 1626.5-1645.5 MHz, 1646.5-1660.5 MHz).

<sup>4</sup> Coordination is required with U.S.-licensed space stations and with those operations of non-U.S. licensed space stations involving approved communications with U.S.-licensed earth stations.

<sup>5</sup> This applies to U.S.-licensed space stations and with those operations of non-U.S. licensed space stations involving approved communications with U.S.-licensed earth stations.

<sup>6</sup> Condition (f) for Call Sign E080059 limits the antenna size to 19 meters.

<sup>7</sup> *Intelsat LLC*, Memorandum Opinion Order and Authorization, 15 FCC Rcd 15460, 15499 (2000) (*Intelsat Order*).

agreement, Inmarsat's TT&C operations must be on a non-harmful interference basis (that is, Inmarsat may not cause harmful interference to, or claim, protection from, any authorized space stations operating in the conventional C-band frequencies, and shall cease operations immediately upon notification of such interference). Inmarsat also seeks to eliminate the condition that it must accommodate future space station and earth station networks that are compliant with Section 25.202(g) and asks that the following condition be added to its authorizations: "No operations to which a party to a coordination agreement has consented shall be deemed to result in "harmful interference" with respect to that party."<sup>8</sup>

### III. DISCUSSION

6. In licensing U.S. satellite systems, the Commission specified center frequencies for analog video services channels at C-band. This requirement in the C-band resulted in satellite designs with service channels in the center of the band for U.S. licensed satellites. As a result, the placement for TT&C frequencies for U.S. systems was the narrow guard band at either end of the service band.<sup>9</sup> This became a regulatory requirement. Thus, the relevant rule provides that TT&C functions shall be conducted "at either or both edges of the allocated band(s)."<sup>10</sup> This requirement is intended to simplify the coordination process among space stations at adjacent orbital locations and to provide an incentive for a space station operator to maximize the efficiency of its system's TT&C operations.<sup>11</sup> The requirement provides certainty to existing and future operations of allocated services that they can operate without any impediment from non-conforming use, such as center-band TT&C operations.

7. Based on the stated purpose of the rule, we will not revise condition (a) to require instead that Inmarsat "seek" coordination in "good faith" as Inmarsat requests. Inmarsat has not shown that the requirement to coordinate has caused it hardship or is in some way inequitable. Rather, coordination is a process that must be conducted with the understanding that the parties may not necessarily reach an agreement. In the event Inmarsat does not reach a coordination agreement, then condition (b) would require Inmarsat to operate on a non-interference basis.

8. We will therefore clarify that condition (b) applies only in the absence of a coordination agreement. Without a coordination agreement, Inmarsat's operations may not cause harmful interference to, nor claim protection from, any authorized space stations operating in conformance with Commission rules, and must cease operations immediately upon notification of such interference. Thus, this non-interference condition ensures protection for operators in compliance with Section 25.202(g), particularly operators for which coordination has not yet been completed, or future operators whose operations will conform to the Commission's rules.

9. We decline to delete condition (e), which requires Inmarsat to accommodate future space station and earth station networks that are compliant with Section 25.202(g). This condition makes explicit the requirement that Inmarsat must accommodate future implemented systems that rely on the requirements of Section 25.202(g) to design their systems. Likewise, we decline to adopt Inmarsat's proposed condition that no operations "to which a party to a coordination agreement has consented shall be deemed to result in harmful interference." Inmarsat states that this condition clarifies further the rights

---

<sup>8</sup> *Id.* at 6. Inmarsat also notes that conditions 337 of the E080059 grant, and condition 341 of the KA25 grant inadvertently refer to "Intelsat." *Inmarsat Petition* at 2, note 5. We correct the authorizations to read "Inmarsat."

<sup>9</sup> Intelsat LLC, *Memorandum Opinion Order and Authorization*, 15 FCC Rcd 15460, 15499 (2000) (*Intelsat Order*).

<sup>10</sup> 47 C.F.R. § 25.202(g).

<sup>11</sup> Amendment of the Commission's Rules with Regard to the 3650-3700 MHz Government Transfer Band, *First Report and Order and Second Notice of Proposed Rulemaking*, 15 FCC Rcd 20488, 20538 (2000); and Intelsat North America, LLC, *Order and Authorization*, 24 FCC Rcd. 7058, 7063 (2009).

and responsibilities of Inmarsat and the parties regarding the non-interference conditions in the authorizations. We find that the rights and responsibilities of the parties are already defined in the conditions, as modified here, and therefore the additional condition proposed by Inmarsat is unnecessary.

10. Finally, we address Inmarsat's reliance on the *Intelsat Order*, which granted Intelsat a waiver of 25.202(g), but did not include a "non-interference" condition.<sup>12</sup> In the *Intelsat Order*, the Commission granted Intelsat a waiver of Section 25.202(g) to allow center-band TT&C operations because Intelsat's space craft were already launched and operational, or under construction, and could not be modified to use alternate TT&C frequencies.<sup>13</sup> Intelsat's space stations that were subject to the *Intelsat Order* were designed under the particular circumstances of Intelsat's operation as an inter-governmental organization, which exempted it from full compliance with the Commission's rules adopted for domestic satellites and international separate systems. The *Intelsat Order* recognized that waiver of certain rules, such as Section 25.202(g), were necessary in order to transition Intelsat's existing fleet from an inter-governmental organization to a private entity.<sup>14</sup> Although Inmarsat was also an inter-governmental organization at one time, the Inmarsat 4F1 and 4F3 space stations were launched in 2005 and 2008, well after completion of Inmarsat's transition to a private entity. Thus, the circumstances of the waiver of Section 25.202(g) in the *Intelsat Order* were very different from those presented by the Inmarsat application, even though the satellites in both instances were operational and unable to be modified at the time of the waiver request.<sup>15</sup> Accordingly, we find that the non-interference condition placed on Inmarsat's TT&C operations, as modified here, is appropriate.<sup>16</sup>

---

<sup>12</sup> *Intelsat Order*, 15 FCC Rcd 15460.

<sup>13</sup> *Id.* at 15500.

<sup>14</sup> Nonetheless, the Commission stated its expectation that Intelsat would "transition over time toward a system that complies with the technical rules upon which other U.S. systems operate." *Id.* at 15493.

<sup>15</sup> Since privatization of Intelsat, the Satellite Division has granted Intelsat additional waivers of Section 25.202(g) for operations of new or existing satellites at new orbital locations. *See, e.g.*, Intelsat Licensee LLC, IBFS File No. SAT-MOD-20110420-00073 (grant March 2, 2012) (Galaxy 26 at 50° E.L.); Intelsat Licensee LLC, IBFS File No. SAT-LOA-20110727-00139 (grant Feb. 23, 2012) (Intelsat 23 at 53° W.L.); and Intelsat Licensee LLC, IBFS File No. SAT-LOA-20100726-00167 (grant Nov. 17, 2010) (Intelsat 17 at 66° E.L. In each instance, waiver of Section 25.202(g) was conditioned on Intelsat operating on a non-interference basis in the absence of a coordination arrangement and on Intelsat accommodating future space station networks that are compliant with Section 25.202(g) of the Commission's rules. These are substantially the same conditions as those placed on the grant of the waiver of Section 25.202(g) for Inmarsat.

<sup>16</sup> We note that Inmarsat also requested a clarification that condition 2610 only applies to certain carriers, as it was added in response to a prior modification, IBFS File No. SES-MOD-20030513-00642. *Inmarsat Petition* at 5, n. 9. We find, however, that this condition, which states "[n]o harmful interference shall be caused by the operation of this station to other lawfully operated radio stations and operation of this station must be terminated immediately upon notification of harmful interference," applies generally to the license. This condition was also included in Inmarsat's renewal for the KA25 license. *See* IBFS File No. SES-RWL-20021106-02039.

**IV. CONCLUSION AND ORDERING CLAUSE**

11. We find that the conditions imposed on Inmarsat allow for in-band TT&C operations while protecting operators that are in compliance with Section 25.202(g). We will modify the earth station authorizations for Call Sign E080059 and KA-25, conditions 337 and 341 respectively, as noted herein.<sup>17</sup> Accordingly, Inmarsat Mobile Network, Inc.'s Petition for Clarification or Reconsideration is GRANTED in part, and DENIED in part.

FEDERAL COMMUNICATIONS COMMISSION

Jose P. Albuquerque  
Chief, Satellite Division  
International Bureau

---

<sup>17</sup> The modifications will be made to the current authorizations: IBFS File Nos. SES-MFS-20141003-00786 (Call Sign E080059) and SES-MFS-20141003-00787 (Call Sign KA25).