

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

In the Matter of Application of	)	
	)	File No. SAT-MOD-20111021-00207
ORBCOMM License Corp.	)	File No. SAT-AMD-20120809-00125
	)	
For Authority to Modify its Non-Voice, Non-Geostationary Satellite Service Space Segment License (S2103) to Revise the Next-Generation Satellite Deployment Plan	)	File No. SAT-AMD-20130212-_____

**FURTHER AMENDMENT & SUPPLEMENT NARRATIVE EXHIBIT**

By this submission, filed together with the required FCC Form 312, ORBCOMM License Corp. (“ORBCOMM”) further amends and supplements the above-captioned application to modify its Non-Voice, Non-Geostationary Satellite Service FCC space segment license.<sup>1</sup> Specifically, at the request of Commission staff, clarification is provided regarding the pending request to add a feeder uplink channel centered at 150.025 MHz to the currently authorized ORBCOMM feeder link frequency plan.<sup>2</sup> This submission also confirms the deployment plan

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<sup>1</sup> See, FCC Call Sign S2103. See, also, *In the Matter of Applications by ORBCOMM License Corp. For Authority to Modify its Non-Voice, Non-Geostationary Satellite System*, Order & Authorization, DA 08-633 (March 21, 2008), 23 FCC Rcd 4804 (2008) (the “Next-Generation Space Segment License”). Modification Application, File No. SAT-MOD-20111021-00207, *FCC Public Notice*, Report No. SAT-00825, released December 2, 2011. Modification Application Amendment, File No. SAT-AMD-20120809-00125, *FCC Public Notice*, Report No. SAT-00893, released August 31, 2012. No oppositions to the Modification Application or the Modification Application Amendment were entered in the IBFS record or served on ORBCOMM. On October 2, 2012, the Modification Application was granted in part & deferred in part to permit the launch of the first OG2 satellite on October 7, 2012. *Stamp Grant, Slip Op.*, File Nos. SAT-MOD-20111021-00207 & SAT-AMD-20120809-00125, FCC International Bureau, Satellite Division, Satellite Policy Branch, October 2, 2012, *FCC Public Notice*, Report No. SAT-00903, released October 5, 2012.

<sup>2</sup> See, Modification Application, Narrative Description, at pp. 9-10 (October 21, 2011).

for the remaining seventeen ORBCOMM Generation 2 (“OG2”) satellites. Additionally, this submission amends ORBCOMM’s pending August 9, 2012, request for milestone waiver or modification relating to the Next-Generation Space Segment License.<sup>3</sup>

### **Clarification of Proposed Addition of Feeder Uplink Channel**

ORBCOMM hereby clarifies that the Modification Application request and accompanying FCC Form 312 Schedule S information relating to the addition of a feeder uplink channel centered at 150.025 MHz to the currently authorized ORBCOMM feeder link frequency plan is intended for use by all satellites in the ORBCOMM system authorized under FCC Call Sign S2103 (as opposed to only the OG2 satellites).<sup>4</sup> As previously noted, addition of the proposed feeder link uplink channel will allow ORBCOMM to implement required increases in feeder link uplink throughput capacity and coverage.<sup>5</sup> To the extent necessary, ORBCOMM hereby amends the Modification Application in accordance with the above-stated clarification.

### **OG2 Satellite Deployment Plan Update**

ORBCOMM has re-evaluated the deployment plan for the seventeen remaining OG2 satellites following the loss of the first OG2 satellite three days after its October 7, 2012, launch.

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<sup>3</sup> See, Modification Application Amendment, File No. SAT-AMD-20120809-00125, at Attachment 4 (August 9, 2012) “Request for Milestone Waiver or Modification”. See, also, Next-Generation Space Segment License, at ¶ 23(d).

<sup>4</sup> See, FN 2, *supra*.

<sup>5</sup> *Id.* Additionally, ORBCOMM’s search of the Commission’s records reveals no other proposed or existing assignments in the 149.9 – 150.05 MHz band that could result in harmful interference to any other Commission licensee from ORBCOMM’s proposed new feeder uplink channel assignment.

ORBCOMM hereby confirms that it will maintain the currently proposed operational orbit plan for the seventeen remaining OG2 spacecraft that was specified in the Modification Application Amendment and the accompanying FCC Form 312 Schedule S.<sup>6</sup> As indicated in the Modification Application Amendment, the seventeen OG2 satellites will be deployed in four (4) evenly phased orbit planes, each with a target inclination of 52°, and a target operational altitude of 750 kilometers. Three of these planes will consist of four satellites each, and the fourth plane will consist of five satellites. ORBCOMM has contracted Space Exploration Technologies Corp. (“SpaceX”) to deploy the seventeen remaining OG2 satellites as primary payloads on two launch missions using an upgraded version of the SpaceX Falcon 9 launch vehicle that is currently under development. The OG2 spacecraft carried on these two Falcon 9 launch missions will be inserted either directly into the target 750 km circular operational orbit, or at a lower parking altitude that will facilitate separating satellites into different nodal planes for the above-described operational deployment.<sup>7</sup>

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<sup>6</sup> See, Modification Application Amendment, File No. SAT-AMD-20120809-00125, at Attachment 1 (ORBCOMM Generation 2 Satellite Deployment Plan Update) (August 9, 2012). The data provided in the FCC Form 312 Schedule S filed with the Modification Application Amendment remains unchanged and is incorporated herein by reference. Accordingly, a new FCC Form 312 Schedule S is not included with this submission. See, Modification Application Amendment, FCC Form 312 Schedule S (August 9, 2012).

<sup>7</sup> In either case, the satellite insertions associated with these launches will be conducted several hundred kilometers above the International Space Station (“ISS”) operational altitude, and thus, these launch mission profiles will not pose any ISS conjunction hazards. See, Modification Application Amendment, Attachment 3, at 8. Additionally, because the deployment plan for the remaining seventeen OG2 satellites is unchanged from the proposal set forth in the Modification Application Amendment, the revised orbital debris mitigation showing submitted therewith remains valid. See, Revised Orbital Debris Mitigation Showing, Modification Application Amendment, at Attachment 2.

### **Amended Request for Milestone Waiver or Modification**

There are two remaining milestones relating to ORBCOMM's Next-Generation Space Segment License -- the fourth milestone requiring completion of construction and launch of the first two OG2 satellites, and the fifth milestone requiring certification that all OG2 satellites have been placed in operation. ORBCOMM's August 9, 2012, Modification Application Amendment included a request for waiver or modification of the fourth milestone, which remains pending before the Commission.<sup>8</sup> Due to the loss of the first OG2 satellite, and other OG2 program delays that have been beyond ORBCOMM's reasonable control, ORBCOMM hereby amends its August 9, 2012, Request for Milestone Waiver or Modification. As discussed in more detail below, there is good cause for the relief requested, and the public interest will be well served by grant of this amended milestone waiver or modification request.

ORBCOMM respectfully requests that the Commission waive in their entirety the requirements of the fourth and fifth Next-Generation Space Segment License milestones.<sup>9</sup>

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<sup>8</sup> See, Request for Milestone Waiver or Modification, FN 3, *supra*. ORBCOMM's August 9, 2012, Request for Milestone Waiver or Modification requested a waiver or modification of the fourth Next-Generation Space Segment License milestone due to delays in satellite manufacturing and launch vehicle availability that were beyond ORBCOMM's reasonable control. The Milestone Waiver or Modification Request, which is unopposed, requested a six (6) month extension of the fourth milestone. In connection with the six month extension request, ORBCOMM also requested a waiver or modification of the subject milestone to require the launch of one instead of two satellites to conform with the standardized fourth milestone for non-geostationary satellite system licenses set forth at Section 25.164(b)(4) of the Commission's Rules. *Id.*, at FN 5. Alternatively, in the event that ORBCOMM's request to modify the fourth milestone to require the launch of one instead of two satellites was not granted, ORBCOMM requested an additional six (6) month extension (until September 21, 2013) for launch of the second OG2 satellite. *Id.*

<sup>9</sup> Upon grant of the requested waiver, ORBCOMM also requests that the Commission allow ORBCOMM to cancel its remaining \$2 million Next-Generation Space Segment License Performance Bond. Although the circumstances justify the requested release of ORBCOMM's bond obligation, to the extent that it might be deemed necessary, to further assure ORBCOMM's continuing performance, the bond requirements associated with the fourth and fifth milestones

Alternatively, in the event that ORBCOMM's above-stated request for full waiver is not granted by the Commission, ORBCOMM requests a full waiver of the fourth milestone, and an extension of the fifth milestone deadline to December 31, 2015.<sup>10</sup> No legitimate public interest objective would be served by continuing to require ORBCOMM to meet an artificial timetable of performance requirements established for the explicit purpose of safeguarding against specific abuses that are and will remain non-existent in the instant case.<sup>11</sup>

Grant of ORBCOMM's request for a full waiver of the fourth and fifth Next-Generation Space Segment License milestones would be the result that most closely comports with the

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could also be maintained without the hard deadlines for completion. With or without the FCC bond obligation, however, ORBCOMM has more than sufficient business incentive to timely complete deployment of the OG2 satellites. *See, infra.*

<sup>10</sup> At a minimum, to curtail unnecessary further expenditure of both ORBCOMM's and the Commission's resources to address any additional unforeseeable OG2 program delays that might occur, in the unlikely event that the Commission determines the public interest will be served by retaining both remaining milestones, the fourth milestone deadline should be extended until December 31, 2014, and the fifth milestone deadline should be extended until December 31, 2015. Although there is ample justification for grant of ORBCOMM's request for a full waiver of both milestones, grant of the alternative extension requests set forth in this footnote would provide a margin of additional time that should be sufficient, and that is merited given the circumstances of the instant case.

<sup>11</sup> This is certainly not a unique circumstance. There are countless examples in the United States and throughout the world of well-intentioned regulations that result in unintended inequitable consequences that are contrary to the foundational public policy objectives. In this regard, ORBCOMM applauds the Commission's ongoing efforts to update and enhance the Part 25 Satellite Rules, as most recently evidenced by the current Part 25 revision rulemaking. *See, Comprehensive Review of Licensing and Operating Rules for Satellite Services*, NPRM, IB Docket No. 12-267, 21 FCC Rcd 11619 (2012). ORBCOMM's comments in that proceeding included specific proposals to revise the Commission's Rules relating to license modifications, milestones, and performance bonds for non-geostationary replenishment and replacement satellites. *See, Comments of ORBCOMM Inc., IB Docket No. 12-267* (filed January 14, 2013), at pp.13-19. Adoption of ORBCOMM's rule revision proposals in the *Comprehensive Review of Licensing and Operating Rules for Satellite Services* rulemaking proceeding would obviate the need for milestone modification and waiver requests in future circumstances similar to the instant case.

circumstances of the instant case, and the Commission's Rules, public policy mandates, and administrative efficiency objectives. The Commission's satellite license milestone Rules and policies were adopted to address the specific public interest objectives of deterring speculation and precluding "warehousing" of authorized frequencies and orbital resources.<sup>12</sup> It is eminently clear that there is no speculation or "warehousing" occurring with respect to ORBCOMM's Next-Generation Space Segment License. Moreover, penalizing ORBCOMM for not meeting milestones in the absence of speculation or "warehousing" would contravene the Commission's fundamental policy objective of encouraging the provision of new technologies and services to the public, as set forth in Section 7(a) of the Communications Act, 47 U.S.C. §157.

Accordingly, continuing to enforce the current fourth and fifth Next-Generation Space Segment License milestone requirements, or subjecting ORBCOMM to regulatory penalties for not meeting them, would be contrary to the Communications Act, as well as the Commission's Rules and policies.

The ORBCOMM system commenced commercial operations in 1995. Since that time, the ORBCOMM system has and continues to make full use of its authorized spectrum and orbital resources through the ongoing operation of the first-generation ORBCOMM satellite constellation. The delays that have occurred in deploying the OG2 satellites, which will utilize the same spectrum and essentially the same orbital resources as the first-generation ORBCOMM satellites, thus cannot be deemed "warehousing". Furthermore, because the OG2 satellites authorized under the Next-Generation Space Segment License will replenish and upgrade ORBCOMM's currently operating system to facilitate the continuation and expansion of

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<sup>12</sup> See, Request for Milestone Waiver or Modification, at pp.1-2. See, also, e.g., *Amendment of the Commission's Space Station Licensing Rules and Policies*, 18 FCC Rcd 10760 (2003), at ¶ 175.

ORBCOMM's existing global satellite service business, the OG2 satellite program cannot be characterized as "speculative". Moreover, ORBCOMM has committed a cash investment of approximately \$200 million and tens of thousands of ORBCOMM staff hours towards the implementation of the OG2 program and construction and launch of the OG2 satellites. It cannot be questioned that ORBCOMM has diligently abided by its commitment to execute the OG2 program in as timely a manner as possible. Most importantly, ORBCOMM has done so to maintain and expand the capabilities of the ORBCOMM satellite constellation to support the continued growth of ORBCOMM's pre-existing satellite service business – not because of artificial license performance milestone deadlines imposed in the Next-Generation Space Segment License to safeguard against "warehousing" and speculation. In other words, ORBCOMM has a more than sufficient bona fide business incentive to complete deployment of the OG2 satellites in as timely a manner as possible, and has proceeded accordingly throughout the entire course of the OG2 program. The potential negative business implications for not doing so are far greater than the bond forfeiture penalties for failing to satisfy the Next-Generation Space Segment License milestones.

Despite ORBCOMM's full commitment to the OG2 program, and many years of investment and assiduous efforts, there have been an ongoing series of unanticipated program delays. All of these delays have been due to circumstances that are beyond ORBCOMM's reasonable control. For example, ORBCOMM selected Sierra Nevada Corporation ("SNC") as the prime spacecraft contractor for the OG2 program because, for various reasons, the team assembled by SNC was the most optimal available combination of small satellite development and manufacturing capabilities. Even with the best available team, there have been unanticipated delays in OG2 satellite production, all of which have been beyond the reasonable control of

ORBCOMM. There have also been a number of revisions to the OG2 launch plans, including transitioning to a new launch vehicle. ORBCOMM selected SpaceX as the OG2 launch services provider because SpaceX offers the most optimal and cost-effective launch vehicle options for the OG2 program. The extraordinary growth in high priority demand for SpaceX launch vehicles demonstrates that ORBCOMM is not alone in selecting SpaceX as the best option in today's market. Even so, factors that are not uncommon in the space launch industry, such as longer than expected development and mission planning cycles could contribute to on-going delays. As previously noted, program delays that are beyond the reasonable control of the satellite system licensee are by no means uncommon occurrences in the space industry. This is further evidenced by the fact that the Commission has previously granted numerous modifications of launch milestones based on similar circumstances.<sup>13</sup>

Even with the OG2 program delays that have occurred, ORBCOMM continues to work to complete the OG2 satellite deployments at the earliest possible date. Moreover, by obtaining launch services from a relatively new provider using a groundbreaking new-generation of launch vehicles, ORBCOMM is helping to support the entry of an additional competitor into this currently limited market.<sup>14</sup> SNC is also a recent new entrant in the limited commercial small satellite manufacturing sector. Furthermore, because SpaceX and SNC are both U.S. companies,

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<sup>13</sup> See, e.g., *Intelsat LLC*, 19 FCC Rcd 5266 (2004) at ¶ 7 (launch provider had assigned a new launch window). Even when the Commission has not granted requests for satellite milestone extension by license modification, it has acted to provide the requested relief by waiver in situations such as the instant case, where “...*the relief requested would not undermine the policy objective of the rule in question and would otherwise serve the public interest.*” See, e.g., *Echostar Satellite Corporation*, 18 FCC Rcd 15875 (2003), at ¶ 9.

<sup>14</sup> See, Request for Milestone Waiver or Modification, at 4. See, generally, CSIS Report “National Security and the Commercial Space Sector,” (July, 2010), attached to the Joint Comments of Echostar, Intelsat, SES World Skies and Telesat Canada submitted in IB Docket No. 10-99, filed August 23, 2010.



their key involvement in the OG2 program will help to strengthen the competitiveness of the U.S. launch and commercial satellite production industries, not to mention the substantial added benefit of sustaining and creating jobs in this country. Indeed, strengthening U.S.-based commercial space capabilities also enhances national security.<sup>15</sup>

For all of the above-stated reasons, there is good cause for the requested relief, and the public interest will be well served by the prompt grant of this amended Next-Generation Space Segment License milestone waiver or modification request.

### CONCLUSION

Please associate this submission with the record of the above-captioned application. ORBCOMM respectfully requests that the Commission act promptly to grant the above-captioned application to modify the ORBCOMM Non-Voice, Non-Geostationary Satellite Service FCC space segment license, as further supplemented and amended by this submission.

Respectfully submitted,



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February 12, 2013

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<sup>15</sup> *Id.*