



January 12, 2021

VIA IBFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
45 L Street, NE
Washington, DC 20554

Re: *Ex Parte Letter*

Swarm Technologies, Inc., Call Sign S3041, File Nos. SAT-LOA-20181221-00094, SAT-MOD-20200501-00040, and SAT-AMD-20200504-00041;
ORBCOMM License Corp., Call Sign S2103, File Nos. SAT-MOD-20070302-00041, SAT-MOD-20070531-00076, and SAT-AMD-20071116-00161

Dear Ms. Dortch:

ORBCOMM License Corp. (“ORBCOMM”) is filing this notice of a January 7, 2021, telephone meeting between ORBCOMM, represented by Walter Sonnenfeldt, and Karl Kensinger, the Acting Chief of the Satellite Division. In addition, ORBCOMM is responding to letters submitted to the Commission by Swarm Technologies, Inc. (“Swarm”) on December 23, 2020 and December 28, 2020. During the telephone call, Mr. Sonnenfeldt explained that Swarm had mischaracterized ORBCOMM’s position with respect to the ongoing efforts in CEPT to allow entry by Swarm. Swarm erroneously claimed that “While Orbcomm expressed a willingness to agree to some constrained, time-limited use of the channel by Swarm, Orbcomm stated that it ‘objects to implementation’ of Swarm’s interim proposal at this time.” Rather than objecting to implementation of the interim proposal, as the attached CEPT FM44#62 meeting summary indicates:

ORBCOMM supported CEPT approval of the proposed interim Swarm spectrum utilization, provided that the terminal uplink burst duration be limited to 500ms pending the completion of intra service compatibility studies verifying that Swarm’s proposed 1700ms burst duration would not cause unacceptable interference.

The “time-limited use” of the channel that Swarm references – a 500ms transmission burst duration limit – is actually more generous than the 450ms burst duration limit in effect in the United States.

In addition to correcting Swarm’s mischaracterization of ORBCOMM’s activities in CEPT, during the telephone call Mr. Sonnenfeldt also indicated that Swarm has not been working in good faith to reach a sharing agreement with ORBCOMM, notwithstanding the Mr. Kensinger’s admonition in his email of November 18, 2020 to ORBCOMM and Swarm: “[W]e



ask that both companies work with the utmost in cooperation and good faith to facilitate the commencement of global service by the Swarm system, and the continuation of global service by Orbcomm.” Instead, Swarm appears intent on simply pressing ahead with making flawed legal arguments in an effort to circumvent the required notice and comment procedures that would have to be undertaken if the Commission finds a need modify its current NVNG MSS Rules, policies, and licensing decisions, which at this time do not extend NVNG MSS frequency licensing assignments or intra service sharing arrangements outside of the United States.

In its letter of December 23, 2020, Swarm continues to try to convince the Commission to ignore its NVNG MSS rulemaking and licensing decisions that have consistently and explicitly declined to adopt a global band plan, but instead to recognize the sovereignty of foreign Administrations to determine how NVNG MSS services are offered within foreign jurisdictions.¹ Moreover, the 1997 Second Processing Round order did not *sub silentio* alter that determination, but instead itself recognized the sovereignty of Foreign Administrations to address NVNG MSS satellite service operations within their country.² Swarm also continues to

¹ See, *In the Matter of Application of Orbital Communications Corporation*, 9 FCC Rcd. 6476 (1994), at ¶ 15 (“Further, we will not impose a global bandsharing plan on U.S. licensees at this time. As we discussed in our Report and Order in the MSS Above 1 GHz proceeding, we do not believe it is appropriate for the United States to impose global bandsharing restrictions, which will directly impact the ability of other countries to access these LEO systems, absent indications from these countries regarding their planned use of these frequency bands.”); *In the Matter of Amendment of the Commission’s Rules to Establish Rules and Policies Pertaining to a Non-Voice, Non-Geostationary Mobile-Satellite Service*, 8 FCC Rcd 8450 (1993) at ¶ 28 (“Because we will require our licensees to comply with international procedures, including the national requirements of any other licensing administrations, the efforts of these other jurisdictions to implement NVNG service within their own territories will remain within their control.”); and *ibid.* at n. 3 (“In order to provide global service, a Little LEO service provider will need to receive authorization or approval from each country in which it intends to offer Little LEO service.”).

² *In the Matter of Amendment of Part 25 of the Commission’s Rules to Establish Rules and Policies Pertaining to the Second Processing Round of the Non-Voice, Non-Geostationary Mobile Satellite Service*, 13 FCC Rcd. 9111 (1997), at ¶ 128:

In opposition, CTA argues that Little LEO licensees should not be penalized for the limited availability of spectrum by foregoing commercial opportunities in countries where spectrum may be extremely limited. Our intent is not to penalize licensees and we do not believe that our policy will have such a result. We recognize that spectrum coordination and availability as well as market size and commercial opportunities in a particular country may limit the number of systems that can serve that country. We will not penalize the sole service provider in a particular market if spectrum and market

rely on the Commission’s decision more than a decade later to explicitly modify the Big LEO determination of not applying a global band plan for that service.³ However, that decision said nothing about the NVNG MSS (or any satellite service other than Big LEO), and certainly nothing about imposing such requirements on ORBCOMM’s modification license issued in 2008 that was granted several months prior to the Big LEO decision. Moreover, the Big LEO decision is also readily distinguishable from the current situation with regard to NVNG MSS. The Big LEO decision followed a rulemaking proceeding and Section 316 Modification proceeding – the Bureau did not simply make such a declaration in a letter to CEPT as Swarm would have the Commission do here. Moreover, the Big LEO decision to modify the band plan and apply it globally was based on the undisputed determination that sharing between the two Big LEO systems was impossible, because of the systems’ use of different technologies – CDMA and TDMA. In contrast, sharing amongst FDMA NVNG MSS systems should be possible, as evidenced by the Second Processing Round sharing agreement.⁴ Indeed, the Commission recognizes that a sharing agreement is preferable to a Commission-imposed solution.⁵ ORBCOMM thus urges the Commission to reiterate its admonition to Swarm to “work with the utmost in cooperation and good faith” to reach a sharing agreement.⁶

limitations prohibit another system from entering and serving the particular market. We do not expect a United States licensed system to forego opportunities to serve markets based on the possibility that it may be the only service provider in the market. (citation omitted)

³ *Globalstar Licensee LLC, GUSA Licensee LLC, Iridium Constellation LLC, Iridium Satellite LLC And Iridium Carrier Services*, 23 FCC Rcd 15207 (2008) (“*Globalstar-Iridium Order*”).

⁴ In fact, in the context of the Swarm space segment licensing proceedings, both ORBCOMM and Swarm have stated that that such sharing should be possible. *See, e.g., Reply of ORBCOMM License Corp.*, filed September 14, 2020 at pp. 16-17; *Consolidated Response and Opposition of Swarm Technologies, Inc.*, filed September 1, 2020, at pp. 7-9 and 11. ORBCOMM has elsewhere explained in detail, however, why Swarm’s Carrier-Sense Multiple Access media access control protocol with Collision Avoidance scheme for avoiding interference between NVNG MSS systems will not protect against harmful interference. *See, Reply of ORBCOMM LICENSE CORP.*, File No. SAT-AMD-20200504-00041 and File No. SAT-MOD-20200501-00040, filed September 14, 2020, at pp. 8-12 and Attachment 1.

⁵ *E.g., Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, 32 FCC Rcd 7809 (2017) at ¶ 48 (“We believe that coordination among NGSO FSS operators in the first instance offers the best opportunity for efficient spectrum sharing.”).

⁶ Although ORBCOMM disagrees with many of the assertions in the letter filed by Myriota Pty. Ltd. on December 4, 2020, ORBCOMM does agree that it makes sense to have all

In addition to the flawed legal arguments underlying Swarm's proposed Commission action, the Swarm proposal would also implicate some very thorny policy issues. As discussed above, Commission imposition of NVNG MSS global band sharing requirements based on the record before it at this time would be wholly inconsistent with the key justifying rationale for extending Big LEO band sharing requirements outside of the United States. It would also be inconsistent with the Commission's consistent recognition of the sovereignty of foreign Administrations to address NVNG MSS satellite service offerings within their country.⁷ In addition, such action would raise questions with regard to the Commission's authority, given that in the Big LEO decision the Commission relied on ITU Radio Regulation 18.1 to impose global band plan obligations on the satellite licensees,⁸ but that provision addresses the Commission's role as the licensing Administration for transmissions.⁹ In contrast to the Big LEO case, however, the bands at issue here involve satellite uplinks, not satellite downlinks.¹⁰

Finally, ORBCOMM observes that the European regulators are trying to avoid the inefficiency of band segmentation that the Commission effectively adopted within the United States by awarding Swarm its initial license, which relied on the Second Processing Round frequency assignments, but not the Second Processing Round "bandsharing plan." The Second Processing Round band sharing plan involved more than just the frequency assignments, and the un-shared portion of the band that Swarm was awarded was originally reserved for a CDMA system, because sharing between the FDMA systems and the CDMA system was not possible. But Swarm does not use CDMA, and thus spectrum which could be shared will not be under the proposed unilateral global imposition of the Second Processing Round frequency assignments. It

of the applicants work together with ORBCOMM to develop a mutually acceptable sharing agreement.

⁷ Indeed, the Commission itself relies on such authority over foreign-licensed satellite systems to address issues including orbital debris mitigation (47 CFR § 25.137(b)) and the re-allocation of the C-band (*Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, 35 FCC Rcd 2343 (2020)).

⁸ *Globalstar-Iridium Order*, at n. 85.

⁹ Radio Regulation 18.1 provides (emphasis added):

No transmitting station may be established or operated by a private person or by any enterprise without a licence issued in an appropriate form and in conformity with the provisions of these Regulations by or on behalf of the government of the country to which the station in question is subject (however, see Nos. **18.2**, **18.8** and **18.11**).

¹⁰ In the Big LEO context, the satellite spectrum at issue involved satellite downlinks, because Iridium had bi-directional operations in the band at issue there.

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made no sense for the Commission to adopt such an inefficient scheme here when it awarded Swarm its license -- it would be an even worse policy choice for the Commission to try to impose such inefficiencies on the Europeans.

For all of these reasons, the best course for the Commission to take would be to once again admonish Swarm to negotiate a sharing agreement in good faith, rather than following Swarm's suggestion of imposing the U.S. NVNG MSS uplink assignments on the rest of the world. If the Commission ultimately deems it necessary to consider extending NVNG MSS band sharing plans to preclude harmful intra service interference beyond the territory of the United States, ORBCOMM would support initiation of the required notice and comment proceedings to consider the required changes to the Commission's NVNG MSS Rules and policies.

Respectfully submitted,



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ATTACHMENT

CEPT FM44 #62

16-18 December 2020

Meeting Summary



European Conference of Postal and Telecommunications Administrations

- 48 European countries cooperating to regulate posts, radio spectrum and communications networks

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Group Info ▾

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Forum(/ecc/groups/ecc/wg-fm/fm-44/client/forum/)

OUTCOME OF FM44#62

18 Dec 2020, 16:18

The meeting was attended online by 57 participants from 18 administrations, ECO, CRAF and satellite operators.



4. FM44_39 & 40 Satellite use in Q/V Bands

- FM44 agreed changes to the draft revision of ERC Decision (00)02 on the 37.5-40.5 GHz based on proposals from ESOA, including a new proposed annex on coordination with fixed links in 37.5-39.5 GHz.
- FM44 agreed changes to the new draft ECC Decision on the 47.2-50.2 GHz and 50.4-52.4 GHz bands based on proposals from ESOA
- CRAF provided information on RAS usage in these bands and raised a question on where to address RAS-FSS sharing in 42.5-43. GHz. This will only be considered as part of future work once the PT1 work on MFCN harmonisation is complete, in line with the agreements of ECC.

5. FM44_37 Revision of Rep 184 & Dec (13)01 & (15)04

- France submitted an input on the duties of administrations as a result of Res-169 (WRC-19). According to the Resolution the protection of terrestrial services in neighbouring countries is the responsibility of the notifying administration, therefore this is out of the scope of ECC Decisions on ESIM.
- FM44 agreed updates to the draft revision of ECC Decision (13)01 based on proposals from the UK.
- It was agreed that the revision of ECC Decision (13)01 for maritime ESIM will be considered in 2 stages, with the first stage covering the territory of the administration, and the second stage addressing the case beyond the 12 nautical mile coastline limit but within the 70 km limit within which prior agreement is required according to Res-169.

- Operators were requested to consider what information on FS usage and in which format would be needed to be provided by administrations in order to understand the necessary protection measures.
- It was agreed one additional meeting is needed before sending the draft revised ECC Decision (13)01 to public consultation.

7. FM44_38 Measures for MSS 2GHz operations

- The interference situation in this band was discussed based on the input from Inmarsat presented to FM44#60. Inmarsat indicated they would provide details of interference cases to MSS from fixed links to the next meeting, and will contact the concerned administrations in advance.

8. Review of ECC decision/recommendation - ERC Decision (99)06

a) LS on update of SE40 results

- An LS was received from SE40 confirming the completion of inter-service studies for Myriota and Fleet. Intra-service studies are still pending.

b) Swarm update to FM44

- Swarm presented an update of the current status of the discussions with the FCC regarding clarifications of whether or not the requirement of band segmentation should apply globally. A response is not expected until January at the earliest. Swarm is still in discussion with ORBCOMM regarding the wider coordination. Swarm requested FM44 to consider interim approval for the downlink frequencies and 50 kHz of uplink spectrum in 149.9-149.95 MHz pending the outcome of the wider process.
- ORBCOMM noted that the informal response from the FCC urged the operators to reach agreement on technical means for co-frequency sharing (consistent with CEPT findings), and that ORBCOMM was working in good faith to engage Swarm in the necessary discussions. ORBCOMM supported CEPT approval of the proposed interim Swarm spectrum utilization, provided that the terminal uplink burst duration be limited to 500ms pending the completion of intra service compatibility



studies verifying that Swarm's proposed 1700ms burst duration would not cause unacceptable interference.

- FM44 agreed to include Swarm in Annex 2 on this basis. An LS was agreed to WGSE and SE40 to request their confirmation that this would not impact on sharing, and to request inclusion of specific text in ECC Report 322 on this.
- The changes to the Decision were agreed in a preliminary draft based on the version currently in PC, and will be submitted to WGFM subject to agreement from WGSE in January. A 1 day meeting of FM44 will be arranged on 22 January (between WGSE and WGFM) to finalise this.
- As the Swarm system was already included in a draft update to Annex 2 which was not agreed during a previous public consultation, it may therefore not be necessary to re-submit the Swarm tables to public consultation as it is effectively a resolution of previous unresolved comments. WGFM or ECC will need to take the final decision on this.
- In a session limited to administrations Germany presented information from Swarm regarding compliance with milestones 4, 6b and 7 of the Decision. This includes information on recent satellite launches, licensing, ongoing coordination with CEPT administrations and commencement of operations.
- FM44 discussed further the case where operators cannot come to an agreement. The proposal from administrations agreed at the last meeting was developed further. It is suggested that co-frequency operation should be expected to be feasible in both directions by default, and the burden should be on the operators to demonstrate to WGSE/SE40 technical evidence if co-frequency operation is not feasible. This was considered for the case of Orbcomm/Swarm but it was agreed to concept is applicable to other sharing scenarios

c) Aggregate effects

- The previous LS from SE40 from June on the issue of aggregate interference was re-introduced for further discussion
- CRAF presented a proposal to record information in the Decision on the estimated aggregate data loss by SE40, which should be updated as new systems are added. CRAF propose that in case a 5%

threshold is exceeded, operators should share the burden equally to reduce this. New systems should not be blocked from inclusion in Annex 2 based on this. It was agreed this was a good starting point but some concerns were raised, including the difficulty to monitor the data loss and the lack of information for satellite systems outside the framework of the Decision.

- It was noted that MetSat may need to be considered separately.
- A reply LS to SE40 was agreed to inform them of these discussions and to provide advice on the relevant ITU-R Recommendations for MetSat interference.

d) Non-CEPT candidates

- FM44 discussed the options for enforcement of the constraints for operators notified outside CEPT, based on the text agreed between administrations at the previous meeting. It was noted there is a need for clearly defined procedures for this scenario. This proposal will be considered further in the second stage review of the wider framework.

10. Protection of the RAS (Iridium Next)

- Germany provided information on the ongoing measurement campaign at Leeheim expected to run until January

12. Future meeting(s)

- FM44#63: Dedicated meeting on ESOMPs –13 January 9:00-17:30
- FM44#64: Dedicated meeting on ERC/DEC/(99)06 – 22 January 9:00-17:30 (to continue on 25th in the afternoon from 13:30 if needed)
- FM44#65: 10-12 May

Address



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