

Before the
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of)

TerreStar Networks, Inc.)

) File No. SAT-MOD-20070608-00080

) Call Sign S2633

FILED/ACCEPTED

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Federal Communications Commission
Office of the Secretary

REPLY OF TERRESTAR NETWORKS, INC.

TERRESTAR NETWORKS, INC.

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REPLY OF TERRESTAR NETWORKS, INC.

TerreStar Networks, Inc. ("TerreStar"), pursuant to Section 1.45 of the Commission's rules,¹ hereby replies to the "Comments" of Inmarsat Global Limited ("Inmarsat")² and New ICO Satellite Services GP ("ICO")³ (which supports TerreStar), and a letter submitted by Globalstar, Inc. ("Globalstar")⁴ with respect to TerreStar's "Request for Milestone Extension" ("Request") in the above-captioned proceeding.⁵

I. INTRODUCTION AND SUMMARY

TerreStar demonstrated in its Request that it has made substantial progress in the construction of its satellite (84% of hardware units to main body of satellite installed); has made payment of 97.1% of the satellite constructing price (excluding in orbit

¹ 47 C.F.R. § 1.45.

² Comments of Inmarsat Global Limited, dated July 23, 2007 ("Inmarsat Comments").

³ Comments of New ICO Satellite Services G.P. ("ICO Comments").

⁴ See Letter from William T. Lake, Counsel to Globalstar, Inc. to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission (Jul. 23, 2007) ("Globalstar Letter").

⁵ See TerreStar Networks, Inc., Request for Milestone extension, IB File No. SAT-MOD-20070608-00080, accepted for filing on FCC Public Notice, Report No. SAT-00453 (rel. Jun. 22, 2007) ("Request").

incentives) and 70% of the launch fee for the satellite; and has made substantial progress toward the construction and implementation of associated terrestrial facilities.⁶ TerreStar set forth in its Request how manufacturer and manufacturer-subcontractor problems in the timely completion of three components for the satellite was, despite work-around and other mitigation efforts, forcing a delay in delivery of the satellite. As attested to by TerreStar's manufacturer in supporting the Request, the problems encountered in the manufacturing process were "completely outside of TerreStar's control."⁷ Because of these events, TerreStar sought a 10-month delay of its launch milestone, but no extension of its in-service date milestone.

In addition to providing factual evidence, TerreStar cited to numerous Commission precedents granting extensions as long as or longer than the extension requested by TerreStar. The most critical element in these cases was a showing and determination that a licensee is actually proceeding toward construction and launch, so as to "prevent warehousing of valuable orbital locations and spectrum."⁸ In fact, "[i]n every instance where the Commission has denied a milestone extension request, construction of the satellite either had not begun or was not continuing, thus raising

⁶ *Id.* at 2-3.

⁷ See Attachment I of Request, Letter from C. Patrick DeWitt, CEO of Loral to Mr. Robert H. Brumley, President and CEO of TerreStar Networks (May 25, 2007) ("Loral's May Letter").

⁸ See Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, *Report and Order* in IB Docket No. 99-81, 15 FCC Rcd 16127, 16177 (2000).

questions regarding the licensee's intent to proceed.”⁹ None of the commenting parties addresses or disputes the precedents cited by TerreStar or seriously suggests that the public interest would be served by denying TerreStar’s Request when its satellite is so close to completion.

Inmarsat rehashes arguments it has made in the past – unsuccessfully – against TerreStar and ICO. Inmarsat claims, for example, that TerreStar exhibited “tardiness” in filing a technical modification application.¹⁰ Inmarsat hypothesizes that TerreStar “could”¹¹ have contributed to the delays in construction it has experienced by purportedly “continually revis[ing] its system design”¹² and making “last-minute modification[s]”¹³ to its satellite. TerreStar demonstrates below that Inmarsat’s contentions lack any legal or factual foundation.

The primary focus of Globalstar’s Letter is Petitions for Reconsideration it has filed in other Commission proceedings, which, indeed are the appropriate proceedings in which to deal with the issues raised by Globalstar. At bottom, both the Comments of Globalstar and Inmarsat are nothing more than attempts to reconsider spectrum

⁹ See Final Analysis Communication Services, Inc., *Memorandum Opinion and Order*, 19 FCC Rcd 4768, 4774 (Int’l Bureau 2004).

¹⁰ Inmarsat Comments at 6.

¹¹ *Id.* at 10.

¹² *Id.* at 3.

¹³ *Id.* at 6.

authorizations already decided by the Commission,¹⁴ and as such should be given no weight.¹⁵

ICO's comments support TerreStar's Request.

II. INMARSAT FAILS TO DEMONSTRATE A LEGAL OR FACTUAL BASIS FOR DENYING TERRESTAR'S REQUEST.

A. TerreStar Was Not Required to Submit an Application for a Technical Modification to its License Prior to CDR and, in any event, Provided the Commission with Extensive Information Regarding the Satellite under Construction with its CDR Certification.

Contrary to Inmarsat's contention, the technical details regarding TerreStar's satellite under construction have been well documented to the Commission in its CDR Report and in numerous meetings with the Commission staff reflected in the public record, most notably in the Commission's proceeding to determine the disposition of returned 2 GHz MSS spectrum.¹⁶

In fact, Inmarsat made the same argument in opposing a grant of TerreStar's request for a 2 x 10 MHz spectrum assignment that Inmarsat is making now in

¹⁴ See Inmarsat Comments at 8 ("The Commission's milestone policy is of particular import here, because, while TerreStar's 20 MHz of spectrum goes unused, other ready, willing and able operators, such as Inmarsat, are foreclosed from proceeding with their own 2 GHz MSS systems . . ."); Globalstar Letter at 3 ("Globalstar reiterates that, as an MSS provider with eight years of experience, it remains committed and financially able to construct and launch a robust and viable 2 GHz MSS system, if given the opportunity.")

¹⁵ Globalstar also makes the points, with which TerreStar has no disagreement, that: 1) TerreStar is only seeking a 10-month extension in its launch milestone while ICO has already been granted a total of 17 months extension in its operational milestone; and 2) TerreStar has not sought a delay in its operational milestone.

¹⁶ See, e.g., TMI Communications and Company Limited Partnership and TerreStar Networks, Inc. Comments filed in IB Docket No. 05-221 (Jul 29, 2005).

opposition to TerreStar's Request. Inmarsat argued then, as it does now, that TerreStar had exceeded the terms of its LOI authorization by implementing a higher-powered satellite design.¹⁷ The Commission did not accept Inmarsat's argument when it modified TerreStar's LOI authorization to reflect a 2×10 MHz frequency assignment.¹⁸ Inmarsat should not be permitted to reargue its rejected position in this proceeding.

Contrary to Inmarsat's assertion, the Commission's rules governing modifications of space station authorizations¹⁹ and milestone compliance do not require an applicant to submit applications for technical modifications at or before the critical design review ("CDR") milestone.²⁰ When the Commission granted ICO's first milestone extension request, moreover, it flatly rejected the argument that a technical modification application could not be submitted post-CDR. It stated: "The Commission *did not* adopt a rule provision barring grant of [technical modification] applications if filed after the CDR deadline."²¹

In any event, when TerreStar submitted its certification as to its compliance with the CDR milestone, it submitted with that certification a two-volume CDR report (the "CDR Report") setting forth in detail a description of the satellite under construction,

¹⁷ Inmarsat Ventures Limited Reply Comments filed in IB Docket No. 05-221 (August 15, 2005), at 7.

¹⁸ See Use of Returned Spectrum in the 2 GHz Mobile Satellite Service Frequency Bands, *Order*, 20 FCC Rcd 19696, Appendix, Parties Filing Pleadings (2005).

¹⁹ 47 C.F.R. § 25.117.

²⁰ *Id.* at 3. See 47 C.F.R. § 25.164.

²¹ ICO Satellite Services G.P., *Memorandum Opinion and Order*, 20 FCC Rcd 9797, 9804 at n. 40 (Int'l Bureau 2005) (emphasis added).

including all subsystems that are now the cause of construction delays.²² As discussed below, the satellite under construction is substantially similar to that described in the CDR Report, without any material change in the performance requirements of the parts of the satellite that are the source of the delays in the satellite's construction.²³

Although, following the CDR Report, the satellite has gone through an evolutionary process in the course of construction,²⁴ this is no more than the Commission stated, in the analogous ICO context, it would "expect[]" ... in the continued progress and development of all aspects of" a 2 GHz satellite system.²⁵

TerreStar also kept Industry Canada fully informed as to the technical modifications to the satellite. Although changes in the orbital location and feeder links were approved by Industry Canada in 2005,²⁶ it was not until early April 2007 that

²² See Letter from Gregory C. Staple, Counsel to TMI Communications and Company Limited Partnership, to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission (Dec. 6, 2004) (TMI was TerreStar's predecessor in interest of TerreStar's LOI authorization).

²³ See Attachment 1: Letter from John Celli, President and Chief Operating Officer of Loral to Dennis Matheson, CTO, SVP Satellite Systems of TerreStar Networks (August 6, 2007) ("Loral's August Letter").

²⁴ *Id.*

²⁵ See *New ICO Satellite Services G.P., Memorandum Opinion and Order*, 22 FCC Rcd 2229, 2235 (Int'l Bureau 2007).

²⁶ See Letter from Jan Skora, Director General, Radiocommunications and Broadcasting Regulatory Branch, Industry Canada to Mr. Ted Ignacy, Vice President, Finance of TMI Communications and Company, Limited Partnership (Sep. 29, 2005) attached to Letter from Gregory C. Staple, Counsel to TMI Communications and Company Limited Partnership, to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission (Feb. 1, 2006).

Industry Canada finally approved other technical modifications to the satellite.²⁷ Once Industry Canada's approval was in hand, TerreStar promptly prepared and filed its technical modification application with the Commission. Given that TerreStar's LOI authorization from the Commission is based upon the technical parameters licensed by Industry Canada,²⁸ it would have been premature for TerreStar to submit a technical modification application to the Commission before Industry Canada had acted.

Moreover, the cases cited by Inmarsat to support its objection are inapposite, because (unlike TerreStar's circumstances) the cases involved fundamental network changes. In one of the cases, the Commission found that a satellite construction contract to build a *C/Ku hybrid satellite* was insufficient to preserve a *Ka-band* authorization.²⁹ In the other case, a contract to build *two (2) satellites* was found insufficient to maintain an authorization for a *16-satellite constellation*.³⁰ Neither case supports denying a request that involves no change in service link frequencies; that involves changes made with the

²⁷ See Letter from Michael D. Connolly, Director General, Radiocommunications and Broadcasting Regulatory Branch, Industry Canada to Mr. Steven Nichols, Executive Vice President, Operations of TerreStar Networks (Canada) Inc. (Apr. 27, 2007) attached to Letter from Gregory C. Staple, Counsel to TMI Communications and Company Limited Partnership, and Joseph A. Godles, Counsel to TerreStar Networks, Inc., to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission (May 1, 2007).

²⁸ Mobile Satellite Service in the 2 GHz Band, *Report and Order*, 15 FCC Rcd 16127, n.3 (2000) citing Amendment of the Commission's Regulatory Policies to Allow Non-U.S.-Licensed Space Stations to Provide Domestic and International Satellite Service in the United States, *Report & Order*, 12 FCC Rcd 24094, 24173-74 (1997) ("DISCO II Order").

²⁹ EchoStar Satellite Corp., *Memorandum Opinion and Order*, 17 FCC Rcd 12780, 12782 (Int'l Bureau 2002).

³⁰ Mobile Communications Holdings, Inc., *Memorandum Opinion and Order*, 18 FCC Rcd 11650, 11653 (2003).

knowledge of the Commission's staff; and that involves technical modifications needed to support first responder, federal government, and military needs.

B. Inmarsat Has Not Rebutted TerreStar's Showing that the Delays Experienced in Construction Are Outside of TerreStar's Control.

Finally, Inmarsat suggests that TerreStar may have made "last-minute modification[s]" or been "continually revis[ing] its system design"³¹ and further suggests that such changes "could have impacted the choice or design of hardware on the spacecraft"³² and, therefore, been a factor in construction delays. Inmarsat has offered no support for its claims and they are, in fact, wrong.

TerreStar demonstrated in its Request that the causes of the delay were problems in the manufacturing process beyond TerreStar's control and TerreStar stands by this showing. The attached letter from Loral, moreover, lays to rest Inmarsat's suppositions that the construction delays might be attributable to last minute modifications or continual changes in design made at TerreStar's behest. As stated by Loral:

While the TerreStar FM-1³³ satellite hardware has gone through a normal evolutionary process in the course of its manufacturing, assembly, system integration and test after CDR, the performance requirements and hardware have not changed. Moreover, the unit-level specifications for the LNAs and the oscillators remain the same and have not changed. The S-band feed array design did change slightly by reducing the actual number of feed horn elements. The change was not the cause of the schedule delays later

³¹ Inmarsat Comments at 3.

³² *Id.* at 10.

³³ "TerreStar FM-1" is Loral's internal reference for TerreStar-1.

encountered in the manufacture of the S-band array, but solely the result of normal design optimization process.³⁴

Further, even with respect to the change in the S-band feed array noted by Loral, this change was made at Loral's request, not at the request of TerreStar. As stated by Loral, the change was not the cause of the problems later encountered in the manufacture of the S-band array. To the contrary, the change simplified the design of the feed array by reducing the number of feed horns.³⁵

Contrary to Inmarsat's suppositions, Loral makes clear in its letter: "None of the delays in satellite construction were caused by design changes imposed by TerreStar."³⁶ Rather, as Loral previously stated, the delays were due to problems encountered in the manufacturing process that were "completely outside of TerreStar's control."³⁷

The milestone extension cases cited by Inmarsat are inapposite. In the order granting ICO's extension request, which Inmarsat also opposed, the Commission rejected the very same argument and distinguished the very same precedents³⁸ relied upon by Inmarsat in this proceeding. The basis for the Commission's distinguishing of the precedents was that, "in each case, there was no evidence that the licensees had commenced construction of their satellites. Extending milestones on this basis, the Commission stated, would allow licensees to 'extend indefinitely their non-

³⁴ Loral's August Letter.

³⁵ *Id.*

³⁶ *Id.*

³⁷ Loral's May Letter.

³⁸ See NetSat 28 Co. L.L.C., 19 FCC Rcd 17722, 17726 (2004) ("NetSat 28"); PanAmSat Licensee Corp., 16 FCC Rcd 11534, 11541 (2001) ("PanAmSat"); Loral Space & Communications Corp., 16 FCC Rcd 11044, 11047 (2001).

performance' by repeatedly modifying their systems."³⁹ The same distinction applies here.

Underlying all of these cases is a concern that the companies involved were using claims of design changes as an excuse for not committing the funds needed to commence the construction of a satellite in earnest and to meet their service obligations. No such concern exists, however, for an entity whose satellite is far along in construction, is substantially paid for, and is the subject of a launch services agreement under which substantial payments also have been made. To date, TerreStar has invested more than 300 million dollars in satellite construction and launch costs alone for the satellite. TerreStar has done, and continues to do everything within its power, to press its manufacturer to complete the satellite's construction so it can bring the satellite into service. Inmarsat's suggestions otherwise are based on rank speculation and should be summarily rejected.

III. GLOBALSTAR'S LETTER IS IRRELEVANT TO TERRESTAR'S REQUEST.

The primary subject of Globalstar's Letter is its Petition for Reconsideration of the cancellation of its 2 GHz authorization⁴⁰ and its Petition for Reconsideration of the Commission's decision in the "2 X 10" Order.⁴¹ Globalstar, however, does not contend

³⁹ See New ICO Satellite Services G.P. at 2234 (Int'l Bureau 2007) (citing Loral Space and Communications Corp., 16 FCC Rcd at 11047).

⁴⁰ See Globalstar Petition for Reconsideration, File Nos. SAT-LOA-19970926-00151-54/65 et. al. (filed Jul. 26, 2004) ("Petition for Reconsideration"); Supplement to Petition for Reconsideration (filed Aug 26, 2005).

⁴¹ See Globalstar Petition for Reconsideration, IB Docket Nos. 05-220 and 05-221 (filed Jan. 9, 2006).

that the Commission's decisions in these two other matters have any bearing on TerreStar's Request, nor could they. Accordingly, Globalstar's contentions are best addressed in the proceedings in which they already have been raised.

IV. ICO SUPPORTS TERRESTAR'S EXTENSION REQUEST.

There are obvious parallels between the circumstances underlying ICO's milestone extension request, which has been granted, and TerreStar's milestone extension request. ICO has supported TerreStar's Request, and that support furnishes an additional reason as to why the Request should be granted.

V. CONCLUSION: GRANT OF TERRESTAR'S REQUEST IS IN THE PUBLIC INTEREST.

As TerreStar's satellite nears completion and ground work continues on a system that will provide essential first responder communications services that this country so desperately needs, it cannot seriously be suggested that the public, or the public interest, would be served by denying the launch milestone extension that has been requested. None of the commenting parties could contend otherwise. The Commission previously held, in the context of another satellite operator's request for a milestone extension, that "it would not be in the public interest to cancel the license of a company that has completed construction of approximately 85 percent of its satellite and provided a concrete plan for completing construction and launching a satellite within

the next several months.”⁴² The logic underlying that holding applies with equal force in this case.

Accordingly, for good cause demonstrated, TerreStar respectfully requests that its Request be granted.

Respectfully submitted,

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⁴² Intelsat LLC; Request for Extension of Milestone Dates for the INTELSAT 10-02 (INTELSAT Alpha-2) Satellite, 19 FCC Rcd 5266, 5268-69 (Int'l Bureau 2004).

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John Celli
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August 6, 2007

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Subject: TerreStar FM-1 Satellite Schedule Delay Letter

Dear Mr. Matheson:

The TerreStar FM-1 satellite under construction is substantially similar to the one described to the Commission in the Critical Design Review ("CDR") Report presented to the Commission in 2004 with the certification of the CDR milestone.

While the TerreStar FM-1 satellite hardware has gone through a normal evolutionary process in the course of its manufacturing, assembly, system integration and test after CDR, the performance requirements and hardware have not changed. Moreover, the unit-level specifications for the LNAs and the oscillators remain the same and have not changed. The S-band feed array design did change slightly by reducing the actual number of feed horn elements. The change was not the cause of the schedule delays later encountered in the manufacture of the S-band array, but solely the result of normal design optimization process.

Loral is prime contractor of the TerreStar FM-1 satellite. TerreStar has made all payments required under the contract in full in accordance with the terms of the contract. None of the delays in satellite construction were caused by design changes imposed by TerreStar.

Sincerely,

SPACE SYSTEMS/LORAL, INC.



John Celli
President and Chief Operating Officer

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Reply of TerreStar Networks, Inc. was sent by first class mail, postage prepaid, this 7th day of August, 2007, to each of the following:

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