

**Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

**FILED/ACCEPTED
JUN 23 2008**

Federal Communications Commission
Office of the Secretary

In the Matter of)	
)	
Globalstar Licensee LLC	)	Call Sign S2115
GUSA Licensee LLC	)	Call Sign E970381
)	
Iridium Constellation LLC	)	Call Sign S2110
)	
Iridium Satellite LLC	)	Call Sign E960132
Iridium Carrier Services	)	Call Sign E960622
)	
Modification of Authority to)	
Operate a Mobile Satellite System in the)	
1.6 GHz Frequency Band)	
)	

REPLY OF GLOBALSTAR TO OPPOSITION OF IRIDIUM

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TABLE OF CONTENTS

Summary.....i

I. THE COMMISSION FAILED TO PROVIDE THE REQUIRED NOTICE AND OPPORTUNITY FOR COMMENT BEFORE DEPARTING FROM ITS LONGSTANDING PRIOR PRACTICE.....2

II. IRIDIUM IGNORES THE COMMISSION’S REPEATED DECISIONS THAT ITS MSS BAND PLANS APPLY ONLY WITHIN THE UNITED STATES.....6

 A. The Commission Has Confirmed Repeatedly in the *Big LEO Proceeding* and Elsewhere That Its MSS Band Plans Apply Only in the United States.....6

 B. Much of Iridium’s Opposition Attacks Straw Men That Have Nothing to Do with Globalstar’s Protest.....8

 C. The *Hughes* and *War Zone* Precedents Cited by Iridium Do Not Support the Outcome Proposed in the *Modification Order*.....12

 D. The Action Proposed in the *Modification Order* Would Conflict with Sound Spectrum Management Policies.....14

III. GLOBALSTAR HAS MET THE REQUIREMENTS FOR A HEARING UNDER SECTION 316.....16

Conclusion.....20

SUMMARY

Iridium's Opposition does not even try to show that the Commission gave notice and opportunity for comment before attempting in the *Modification Order* for the first time to give worldwide effect to the US MSS band plan. Rather, Iridium argues that the Commission had no responsibility to give notice, because this proceeding is an adjudication, not a rulemaking. That slight of hand is unavailing. The *Modification Order* does not purport to adjudicate anything; it purports to be merely a last procedural step to implement the Commission's recent revision of the band plan rules. But the label doesn't matter, because the Commission had a duty to give notice of its proposed departure from established policy, whatever label it attaches to the proceeding.

Iridium's lengthy filing ignores the Commission precedents that establish beyond a doubt that the US band plan governs only the provision of service within the United States and has no extraterritorial effect. Those precedents are at the center of Globalstar's Protest. The Commission does not have the legal authority to ignore the precedents, which directly preclude what the Commission has attempted here – to dictate the frequencies on which Globalstar and Iridium may provide service in other countries, regardless of the band plans in effect in those countries.

Much of Iridium's Opposition is devoted to arguing irrelevant propositions. Iridium discusses at length the right that each country has to license earth stations in its territory. That right is unchallenged and beside the point. As the Commission's decisions make clear and Iridium itself acknowledges, the band plan in each country determines the frequencies on which a foreign-licensed *satellite*, as well as earth stations, may provide service in that country. It is the

Commission's attempt here to prescribe the frequencies on which Globalstar's and Iridium's satellites may provide service in other countries that departs from settled law and policy.

Equally irrelevant is Iridium's lengthy argument that the Commission, as licensing authority for Globalstar and Iridium, has the power to modify their satellite authorizations. That is not contested either. The question is whether the Commission has given adequate justification for any change and has followed lawful procedures. The only justification given in the *Modification Order* for constricting Globalstar's satellite authorization is the November 9, 2008, revision of the US band plan. As we have shown, that is not a lawful justification. Whether the Commission could make a similar change on some other basis is merely hypothetical here, because it has not put forth any other basis.

The *Hughes* and *War Zone* precedents cited by Iridium do not support the outcome proposed in the *Modification Order*. They reflect and reinforce the established policy from which this order departs.

Limiting the frequencies on which Globalstar may provide service in other countries – in many of which Globalstar cannot use all the spectrum it uses in the United States – is inconsistent with the Commission's announced policy of encouraging US-licensed MSS carriers to provide global service. The Commission has expressly said that carriers should be allowed to use different frequencies overseas than in the United States, to promote that policy.

The Commission should rescind the *Modification Order* insofar as it attempts to dictate the frequencies on which Globalstar and Iridium may provide service in other countries, in disregard of the band plans in effect in those countries. If the Commission does not rescind the order, it should set the matter for hearing under section 316. Iridium concedes that the Commission must set the matter for hearing if "substantial and material question[s] of fact" are

presented that bear on the lawfulness of the order. Iridium puts forth no plausible argument why that mandate does not apply here. Substantial questions of fact exist about the likely impact of the *Modification Order* on Globalstar's operations in many parts of the world, on its independent gateway operators, and on its customers, many of which are military or public safety officials who depend on Globalstar's services to perform their public functions. The answers to these factual questions will show that the *Modification Order* as written is "*prima facie* inconsistent with the public interest, convenience and necessity." *National Science and Technology Network, infra*, at ¶ 12.

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REPLY OF GLOBALSTAR TO OPPOSITION OF IRIDIUM

Globalstar Licensee LLC and GUSA Licensee LLC (“Globalstar”) submit this Reply to the Opposition filed by Iridium Satellite LLC (“Iridium”)^{1/} to Globalstar’s Protest in this proceeding.^{2/}

Iridium’s Opposition demolishes a number of straw men. Iridium argues at length that each country has the right to license earth stations within its borders and that the licensing

^{1/} Opposition of Iridium Satellite LLC To License Protest of Globalstar Inc. (filed June 16, 2008) (“*Iridium Opposition*”).

^{2/} Protest of Globalstar Licensee LLC and GUSA Licensee LLC (filed June 6, 2008) (“*Globalstar Protest*”). See also Globalstar Licensee LLC, Call Sign S2115; GUSA Licensee LLC, Call Sign E970381; Iridium Constellation LLC, Call Sign S2110; Iridium Satellite LLC, Call Sign E960132; Iridium Carrier Services, Call Sign E960622 -- *Modification of Authority To Operate a Mobile Satellite System in the 1.6 GHz Frequency Band*, FCC 08-125 (rel. May 7, 2008) (“*Modification Order*”).

authority for a satellite system has the right to modify the satellite authorization for the system^{3/} – propositions that Globalstar has not disputed. Iridium’s arguments serve only to distract attention from its failure to acknowledge the multiple times the Commission has made clear that its satellite constellation authorizations and its MSS band plans for the United States are not congruent. The Commission may not ignore those precedents here. The Commission has acted contrary to established law and policy, without first building an evidentiary record and without acknowledging or justifying the departure from precedent under the prevailing legal standards. That is unlawful.

Iridium’s suggestion that the Commission can avoid its notice responsibility by labeling its action an adjudication is diversionary. And, despite Iridium’s arguments to the contrary, this is precisely the kind of situation in which section 316 requires a hearing to determine the serious factual issues relating to the impact that the *Modification Order* would have on Globalstar’s operations outside of the United States.

Accordingly, the Commission should rescind the *Modification Order* insofar as it purports to determine the frequencies on which Globalstar and Iridium may provide service in other countries or, in the absence of such relief, designate this matter for hearing.

I. THE COMMISSION FAILED TO PROVIDE THE REQUIRED NOTICE AND OPPORTUNITY FOR COMMENT BEFORE DEPARTING FROM ITS LONGSTANDING PRIOR PRACTICE.

Iridium does not assert, nor could it, that the Commission gave prior notice and opportunity for comment before acting in the *Modification Order* to prescribe the frequencies on which Globalstar and Iridium may provide service in other countries. Rather, Iridium argues that the Commission had no obligation to give prior notice of its intentions, because the *Modification*

^{3/} See *Iridium Opposition* at 10, 12-14, 16-23.

Order was an adjudication rather than a rulemaking action.^{4/} This is sleight of hand, not legal rationale.

The *Modification Order* does not purport to adjudicate anything. It purports to take the ministerial step of implementing the revised band plan adopted in the *November 9th Order* in the *Big LEO Proceeding*, a rulemaking proceeding.^{5/} Revision of licenses to implement a change of band plan is a ministerial step typically left to the Bureau to perform.^{6/} In keeping with that practice, the *November 9th Order* states that “[w]e delegate authority to the International Bureau to modify Iridium’s and Globalstar’s licenses as set forth in this *Second Report and Order*.”^{7/} The Commission subsequently (but implicitly) revoked that delegation, evidently to take action inconsistent with the precedents on which the Bureau would have to rely in exercising its delegated authority. Nonetheless, the Commission did not acknowledge in the *Modification Order* that it was doing anything beyond simply implementing the revised US band plan. To the contrary, the *Modification Order* declares that it was issued solely “pursuant to the recently

^{4/} See *Iridium Opposition* at 7-9.

^{5/} See *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, Second Order on Reconsideration and Second Report and Order*, 22 FCC Rcd 19733 (2007) (“*November 9th Order*”).

^{6/} See, e.g., 47 C.F.R. § 0.261; *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, Report and Order, Fourth Report and Order, and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 13356 (2004) at ¶ 88 (“We delegate authority to the International Bureau to modify Iridium’s license as outlined in this Order, having concluded, as required by section 316, that such action would serve the public interest.”); *New Skies Satellites, N.V. Request for Unconditional Authority To Access the U.S. Market, Memorandum Opinion and Order*, 16 FCC Rcd. 7482 (2001) at ¶ 47 (“[W]e direct the International Bureau to modify each of the earth station licenses listed in Attachment A to the *New Skies Market Access Order* and subsequent earth station licensees for operation with New Skies’ satellites.”).

^{7/} See *November 9th Order* at ¶ 45.

released [*November 9th Order*] to implement revisions to the spectrum licensing and sharing arrangements in the 1610-1626.5 MHz band”^{8/}

The *Hughes* proceeding, which Iridium wrongly cites on a different issue,^{9/} illustrates the point. In a rulemaking proceeding, the Commission expanded the spectrum to which Hughes would have access and directed the International Bureau “to issue an order modifying Hughes’ GSO FSS space-station license to add authority for such operation.”^{10/} In so doing, the Commission did not direct the Bureau to adjudicate what spectrum Hughes could use but merely to carry out the last, ministerial step to implement the rulemaking in which the Commission unambiguously had decided that question.

The rulemaking nature of this proceeding is further evident in the *Modification Order*’s suggestion that the Commission will entertain requests for “waiver” of “the limitation of space station frequencies below 1618.725 MHz.”^{11/} Waivers are available for relief from rules that

^{8/} See *Modification Order* at ¶ 1. Iridium has recognized that “[t]he changes the Commission made to the Big LEO spectrum band are general in nature and apply to all Big LEO MSS ... licensees equally” and thus were made in the context of a rulemaking proceeding. See *Opposition of Iridium Satellite, LLC To Petition for Reconsideration of Globalstar LLC in IB Docket No. 02-364 and EB Docket No. 00-258* (filed Oct. 27, 2004) at 15-16.

^{9/} See *Iridium Opposition* at n.61; *infra* pp. 12.

^{10/} See *Rulemaking To Amend Parts 1, 2, 21, and 25 of the Commission's Rules To Redesignate the 27.5-29.5 GHz Frequency Band, To Reallocate the 29.5-30.0 GHz Frequency Band, To Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, Memorandum Opinion and Order*, 16 FCC Rcd. 11464 (2001) at ¶ 14 (“*Hughes Modification Order*”).

^{11/} *Modification Order* at ¶ 5. (“[W]e will entertain a waiver or modification of the limitation of space station frequencies below 1618.725 MHz.”). If this proceeding were in fact an adjudication, the Commission would be required to adjudicate the scope of Globalstar’s authority to operate in each country affected by the *Modification Order*, which it plainly has not done.

may prove burdensome or inequitable when applied in particular circumstances, as Iridium acknowledges in noting that:

Globalstar has offered no persuasive reasons why it cannot use the Commission's waiver process to remedy any concrete harm that may actually arise Rule 1.3 allows the Commission to waive any of its rules for 'good cause shown.' Indeed, '[t]he FCC may exercise its discretion to waive a rule where particular facts would make strict compliance inconsistent with the public interest.'^{12/}

The Modification Order does not adjudicate in which countries the new US band plan will apply. It asserts that the band plan applies by its own force in all countries, subject to the possibility of waiver. That is clearly a rulemaking action.^{13/}

In any event, declaring the *Modification Order* to be an adjudication would not excuse the Commission's failure to give notice of its intent to modify Globalstar's constellation license to change the frequencies on which Globalstar may provide service in other countries. As Globalstar noted in its Protest, section 558 of the APA forbids the Commission to withdraw (in whole or in part) any license without first giving the licensee "notice by the agency in writing of the facts or conduct which may warrant the action; and ... opportunity to demonstrate or achieve compliance with all lawful requirements."^{14/} And section 554 of the APA requires that a party be given notice and an opportunity to respond in "every case of adjudication required by statute to be determined on the record after opportunity for an agency hearing," with exceptions not here relevant. Any adjudication here would be such a case, by virtue of section 316. That statutory provision specifies that protests are governed by section 309, which in turn states that the Commission "shall formally designate the [protest] for hearing" if "a substantial and material

^{12/} *Iridium Opposition* at 33-34 (citations omitted).

^{13/} As we show have shown, the possibility of waiver does not save this unlawful rulemaking action. *See Globalstar Protest* at 22.

^{14/} *See* 5 U.S.C. § 558, cited in *Globalstar Protest* at 2.

question of fact is presented.”^{15/} Such questions of fact are presented here, as Globalstar showed in its Protest and discusses further below.^{16/} Thus, the agency’s fundamental duty to give notice before it takes action cannot be avoided by semantics.

II. IRIDIUM IGNORES THE COMMISSION’S REPEATED DECISIONS THAT ITS MSS BAND PLANS APPLY ONLY WITHIN THE UNITED STATES.

Iridium’s Opposition ignores the FCC precedents that are decisive here. The Commission has repeatedly held that its MSS band plans determine the frequencies on which MSS operators may provide service in the United States, but not in other countries. Those decisions are not rendered irrelevant merely because Iridium fails to acknowledge their existence.

A. The Commission Has Confirmed Repeatedly in the *Big LEO Proceeding* and Elsewhere That Its MSS Band Plans Apply Only in the United States.

Since the creation of the Big LEO MSS service, the Commission consistently has recognized that it has the authority to designate Big LEO band plans only for application in the United States. The Commission explicitly acknowledged this basic principle of international comity early in the *Big LEO Proceeding*. It confirmed that “we will continue to require our licensees to meet both their international obligations and any national requirements imposed by other licensing administrations regarding operations within their territories.... We continue to believe that decisions relating to the implementation of Big LEO service within a country’s

^{15/} See 47 U.S.C. § 309(e).

^{16/} See *Globalstar Protest* at 20; pp. 16-19 *infra*. See also National Science and Technology Network, Inc., Licensee of Private Land Mobile Radio Station WPMJ456, Glendale, California; Fisher Wireless Services, Inc., Licensee of Private Land Mobile Radio Station WPNQ697, Running Springs, California, FCC File Nos. D108068 and C007248, *Memorandum Opinion and Order*, 23 FCC Rcd 3214 (2008) (“*National Science and Technology Network*”) at ¶ 12 (citing Modification of FM or Television Licenses Pursuant to Section 316 of the Communications Act, *Order*, 2 FCC Rcd 3327 at ¶ 1 (1987) (“*Section 316 Order*”).

territory will remain within that country's jurisdiction and control.”^{17/} Accordingly, the Commission made clear that its rules establishing a US band plan “do not ... purport to have any extraterritorial application,” and that, while “adoption by other administrations of our domestic inter-system sharing plan could, in many instances, provide a simple means of assuring a complementary licensing system in other countries, ... any decision on the issue of what, if any, method of inter-system sharing best serves its national interests rests with the particular administration.”^{18/} More recently, the Commission again confirmed that its Big LEO MSS rules do not establish a global band plan, specifically recognizing that “[i]n the Big LEO proceeding ... we did not require non-Government licensees to operate in accordance with the domestic band plan outside the United States.”^{19/}

These and similar precedents could not be clearer. They leave no room for doubt that throughout the entire history not only of the Big LEO service, but all MSS allocation and licensing decisions, the Commission has drawn a clear and distinct line between its authority to designate the band plan that would apply in the United States, and the authority of other countries to determine the frequencies on which MSS operators may provide service within their

^{17/} See Amendment of the Commission’s Rules To Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands, *Report and Order*, 9 FCC Rcd 5936 (1994) (“*Big LEO Report and Order*”) at ¶ 211.

^{18/} See Amendment of the Commission's Rules To Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Band, *Memorandum Opinion and Order*, 11 FCC Rcd 12861 (1996) (“*Big LEO Memorandum Opinion and Order*”) at ¶ 53.

^{19/} See Rulemaking To Amend Parts 1, 2, 21, and 25 of the Commission's Rules To Redesignate the 27.5-29.5 GHz Frequency Band, To Reallocate the 29.5-30.0 GHz frequency band, To Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, *Third Report and Order*, 12 FCC Rcd 22310 (1997) at ¶ 68 (citing *Big LEO Report and Order* at ¶ 213).

borders. These explicit holdings were featured centrally in Globalstar’s Protest.^{20/} Iridium has failed to answer them.

B. Much of Iridium’s Opposition Attacks Straw Men That Have Nothing to Do with Globalstar’s Protest.

A chief focus of Iridium’s Opposition is the distinction between space stations and earth stations and the right of each country to license earth stations within its borders.^{21/} Globalstar recognizes the distinction, and its Protest raises no issue about whether each country has the right to license earth stations in its territory. Iridium’s long discussion of that issue is a red herring.

The substantive flaw we have asserted in the *Modification Order* is that it purports to apply the US MSS band plan in other countries, thus dictating the frequencies on which Globalstar and Iridium can provide service in those countries without regard to the band plans adopted there. That is not, as Iridium seems to suggest, just a matter of licensing earth stations. If Globalstar’s satellite license does not authorize it to receive signals from the ground on the frequencies on which its mobile earth terminals are authorized to operate in foreign countries, then the band plan adopted by another country is effectively negated. As Iridium itself acknowledges, a band plan dictates the frequencies on which a Big LEO operator may *provide service* in a particular country, and service is provided through the interactive operation of space stations and earth stations.^{22/} An MSS operator, wherever licensed, may not provide service in Country X on a particular frequency unless permitted by Country X’s band plan – and this

^{20/} See *Globalstar Protest* at 8-12.

^{21/} See *Iridium Opposition* at 12-16.

^{22/} “[T]he ‘Big LEO spectrum sharing plan’ includes earth station and satellite space station authorizations.” *Iridium Opposition* at 25. “When it spoke about the Big LEO band plan, the Commission was speaking about MSS providers’ FCC-licensed earth stations and FCC-licensed satellite space stations.” *Id.* at 26.

includes the frequencies on which both the space stations and the earth stations transmit and receive.

The Commission's repeated rulings that its US band plan does not apply in other countries recognize this essential point of international comity. Just as the UK, as licensing authority for ICO, cannot dictate to the FCC the frequencies on which ICO will provide service in the United States through its space stations and earth stations,^{23/} the Commission cannot authorize Iridium to provide service in Germany, for example, on frequencies not allocated to TDMA MSS services in that country. The Commission acknowledged this fundamental point also in *DISCO I*, when it reaffirmed the right of every country to "grant[] permission for another country's *satellite* to provide service or 'land' in its country."^{24/} Iridium would read that sentence to say only that every country has the right to license *earth stations* – a reading inconsistent with its words and with the Commission's declared intent that, "[b]efore an MSS licensee can actually *provide service* in a foreign country, of course it must complete its international frequency coordination obligations and obtain *any required approval* from the countries it wishes to serve."^{25/}

This same point of comity is reflected in Globalstar's and Iridium's satellite authorizations, which Iridium fails to acknowledge. As we have shown, both carriers' satellite authorizations distinguish between the frequencies on which the *satellites are allowed to operate*

^{23/} See *ICO Services Ltd, Order*, 16 FCC Rcd 13762 (Int'l Bur. 2001) (authorizing ICO to use different frequencies inside the United States than it is authorized to use outside).

^{24/} See *Amendment to the Commission's Regulatory Policies Governing Domestic Fixed Satellites and Separate International Satellite Systems, Report and Order*, 11 FCC Rcd 2429 (1996) ("*DISCO I*") at ¶ 12 n.14 (emphasis added).

^{25/} *Id.* at ¶ 73 (emphasis added).

(a broad range reflecting the diverse frequencies allocated for MSS services in different countries) and the frequencies on which Globalstar and Iridium are allowed to “*provid[e] a mobile satellite service in the United States.*”^{26/} The latter frequencies are a narrower range dictated by the Commission’s US band plan at any given time. Iridium’s Opposition simply ignores the crucial language linking the US band plan only to Globalstar’s and Iridium’s authority to provide services in the United States.^{27/} The unprecedented departure in the *Modification Order* is the Commission’s attempt to have the US band plan dictate the frequencies on which each carrier may provide service *in other countries*. Neither Iridium nor the *Modification Order* even acknowledges that departure, let alone justifies it.

For reasons that should be plain, Iridium’s lengthy argument that the Commission has authority to modify Globalstar’s satellite authorization^{28/} is as irrelevant here as its dissertation on earth stations. Globalstar has not challenged the Commission’s authority to modify satellite authorizations. To the contrary, Globalstar has acknowledged that the Commission could appropriately implement the *November 9th Order* by modifying Globalstar’s and Iridium’s satellite authorizations (and of course their earth station licenses) to reflect the change in the frequencies on which Globalstar and Iridium may provide service within the United States under the revised US band plan.^{29/} What Globalstar challenges is the unprecedented attempt in the

^{26/} See *Globalstar Protest* at 11; *Globalstar Ex Parte Filing* in IB Docket No. 02-364 (filed Mar. 24, 2008) (“*Globalstar March 24, 2008 Letter*”) at 4-5 & nn.13, 14.

^{27/} See *Iridium Opposition* at 17.

^{28/} See *Id.* at 16-24.

^{29/} “It would be appropriate (although premature in light of Globalstar’s appeal) for the Commission to implement the *November 9th Order* by revising Globalstar’s and Iridium’s authorizations to reflect the revised frequencies on which the two carriers may *provide service in the United States.*” *Globalstar Protest* at 18 (emphasis added).

Modification Order to extend the effect of the US band plan overseas by modifying Globalstar's constellation license to limit Globalstar's operations in other countries to the frequencies in the US band plan. As we have shown, that attempt is an unlawful and unexplained departure from prior FCC practice. Iridium's argument that the FCC has authority as a general matter to modify satellite authorizations answers a question that hasn't been asked.^{30/}

In other words, the question is not whether the Commission as Globalstar's licensing authority can modify Globalstar's satellite authorization. The question is whether the Commission is doing so with an adequate record and following lawful procedures. The only reason the *Modification Order* gives for proposing to limit the frequencies on which Globalstar's satellites may operate overseas is to give effect to the change in the US band plan. As we have shown, that is not a lawful justification for limiting the frequencies on which Globalstar can provide service outside the United States. The Commission has put forth no other justification. If it did put forth another justification, and if it gave proper notice, then the affected parties could comment on the proposal and a reviewing court, if necessary, could evaluate whether the Commission's justification meets legal requirements. But that question is merely hypothetical here, because the Commission did not do so.

^{30/} The same is true of Iridium's argument that under *DISCO I* the Commission has authority over both geostationary and nongeostationary space stations, a proposition that Globalstar has not questioned. See *Iridium Opposition* at 23. The point we have made is that the policy change made in *DISCO I* (allowing the provision of both domestic and international satellite services) was expressly limited to geostationary systems and explicitly had no effect on non-geostationary Big LEO systems, which were required from the outset to provide both kinds of services. The order thus provides no support for the *Modification Order*. See *Globalstar Protest* at 14-16. The Commission has always distinguished between regional GSO and global NGSO systems in formulating its policies and band plans. See *Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, Report and Order*, 15 FCC Rcd 16127 (2000) ("2 GHz Report and Order") at ¶14 ("[B]ecause a single GSO satellite is inherently restricted to serving a particular geographic area, GSO systems may be better suited for regional spectrum than NGSO systems.").

C. The *Hughes* and *War Zone* Precedents Cited by Iridium Do Not Support the Outcome Proposed in the *Modification Order*.

Iridium purports to find support for its position in the *Hughes Modification Order*, where the International Bureau expanded the frequencies on which Hughes was authorized to operate its satellite.^{31/} To the contrary, that order reflects the consistent Commission policy we describe above. Hughes sought to expand its satellite authorization to allow it to operate its satellite on frequencies that were included in other countries' band plans but not in the US plan. In granting that request, the Bureau expressly acknowledged that the "domestic allocation plan" established by the Commission has no effect overseas, and that the frequencies on which a US-licensed satellite carrier may provide service in another country can (and did in that case) differ from the frequencies on which it may provide service in the United States. What Hughes needed – but Globalstar and Iridium already possess here – was authority to operate its satellite on a broader range of frequencies that included all frequencies encompassed by the various national band plans, to ensure that Hughes could provide service in conformity with the band plan in place in any particular country.^{32/}

Iridium relies also on the International Bureau's actions relating to the Iraq war zone.^{33/} If those Bureau actions are exceptions at all to the established policy discussed above, they are exceptions that prove the rule. What the Bureau did, and what it said, reaffirm the proposition that each country gets to decide the band plan on which MSS services will be provided within its borders.

^{31/} *Iridium Opposition* at 19-20.

^{32/} *See Hughes Modification Order* at ¶ 14.

^{33/} *See Iridium Opposition* at 20-22.

In June 2003, shortly after the United States invaded Iraq, Iridium sought authority to operate temporarily on certain frequencies that the US band plan reserved for CDMA MSS carriers. Iridium said it wished to meet a surge in demand from US forces operating in the war zone.^{34/} In granting an STA and extending it twice later that year, the Bureau made clear that it was doing so only to enable Iridium “to provide critical support to U.S. Forces engaged in operations in Iraq and the Middle East region.”^{35/} Since the United States had toppled the Iraqi Government and was the occupying power in that country, it had *de facto* authority to determine the use of spectrum there. But the Bureau acknowledged the prerogative of other countries outside the war zone to regulate the use of spectrum within their borders. It specified that Iridium’s temporary operations in the expanded spectrum had to be “on a non-interference basis to other allocated services outside of the Middle East.”^{36/}

Globalstar called to the Bureau’s attention at the time the Commission’s longstanding policy “in the Big LEO order that it will not ‘mandate a band sharing scheme to be followed beyond U.S. borders.’”^{37/} The Bureau responded that

^{34/} See Modification of Licenses held by Iridium Constellation, LLC and Iridium US LP, Order, 18 FCC Rcd 11480 (Int’l Bur. 2003) (“June 2003 Modification Order”) at ¶ 7; Modification of Licenses held by Iridium Constellation, LLC and Iridium US LP, Order, 18 FCC Rcd 20023 (Int’l Bur. 2003) (“October 2003 Modification Order”).

^{35/} *Id.* at ¶ 18; see Request for Temporary Authority, Iridium Constellation, LL, Order, 18 FCC Rcd 25814 (Int’l Bur. 2003) (“December 2003 Modification Order”) at ¶ 1 (same).

^{36/} *Id.* at ¶¶ 8, 12 (“[I]n areas outside of the Middle East region, the Iridium satellite system must operate in the 1618.85-1621.35 MHz frequency band on a non-harmful interference basis with respect to any other allocated radio service in that band.”); see *October 2003 Modification Order* at ¶¶ 10, 12 (same).

^{37/} *December 2003 Modification Order* at ¶ 14 (citing Petition To Deny of Globalstar, LP and Globalstar USA, LLC (filed Nov. 17, 2003)).

[i]n this instance ... we are merely specifying frequencies pursuant to which Iridium may offer services *on a temporary basis*.... In granting Iridium's request, we are not specifying a "global band plan." Other countries continue to retain the discretion as to whether to allow services within their borders in accordance with the frequencies we are authorizing Iridium to use on a temporary basis.

The Bureau's orders thus acknowledge the Commission's longstanding policy that its Big LEO MSS band plan applies only in the United States – and, by extension, where the United States is the occupying power during wartime. The Bureau fully recognized the discretion of other countries "as to whether to allow services within their borders in accordance with the frequencies" in the US band plan. The Commission has never before purported to make a US MSS band plan effective in other countries.^{38/}

D. The Action Proposed in the *Modification Order* Would Conflict with Sound Spectrum Management Policies.

Iridium does not rebut Globalstar's showing that the *Modification Order*, if given effect, would hinder Globalstar's ability to provide truly global service, in contravention of the Commission's sound policy of encouraging U.S.-licensed Big LEO MSS carriers to provide service around the world.^{39/} The Commission has expressly recognized that an MSS carrier should be allowed to use service frequencies in other countries that differ from the frequencies it

^{38/} *Id.* The Commission subsequently authorized Iridium, over Globalstar's opposition, to use these particular frequencies in the United States on a permanent, shared basis. *See* Iridium Constellation LLC, Iridium Satellite LLC, and Iridium Carrier Services, Modification of Authority To Operate a Mobile Satellite System in the 1.6 GHz Frequency Band, *Order*, 19 FCC Rcd 17474 (Int'l Bur. 2004). In granting expanded authority to Iridium, the Commission did not amend Globalstar's satellite constellation license to reduce or restrict its rights thereunder.

^{39/} *See, e.g., Big LEO Report and Order* at ¶ 216 ("Delaying [the licensing of Big LEO MSS systems] would delay the improved communications and economic growth that Big LEO services will create. These benefits would be developed both for citizens of the United States and all other countries that may choose to participate in rendering these services. Such a delay would also harm developing countries by limiting their opportunity to improve their communications infrastructure.").

uses in the United States, in order to ensure its ability to provide global service.^{40/} It has given no reason for abandoning that policy here. Equally troubling, the order would invite similar extraterritorial assertions of authority by other licensing administrations, replacing the established regime of international comity with a contest of extraterritorial fiats.^{41/}

Iridium asserts that continued respect for the territorial limits of the US band plan would mean that “no administration would have the authority to police Globalstar’s satellite operations whenever its satellites communicate with an earth station located outside the United States.”^{42/} That is obviously not true. What Globalstar advocates is continued adherence to the established international regime in which one sponsoring administration licenses and coordinates a satellite system to operate across globally allocated bands and then each country determines the band plan for MSS services within its borders. Each national regulator will, as it has in the past, tell Globalstar and Iridium what frequencies they may use to provide service in its country, within the 1.6/2.4 GHz allocation on which the carriers’ satellites have been built to operate in accordance with their US satellite authorizations. The right of each country to specify a national

^{40/} See *ICO Services Ltd, Order*, 16 FCC Rcd 13762 (Int’l Bur. 2001) (authorizing ICO to use different frequencies inside the United States than it is authorized to use outside). See also Amendment of Section 2.106 of the Commission’s Rules to Allocate Spectrum at 2 GHz for Use by the Mobile Satellite Service, *First Report and Order and Further Notice of Proposed Rule Making*, 12 FCC Rcd 7388 (1997) at ¶ 14 (“We believe that this allocation will allow the United States to participate in global MSS systems and realize the benefits to consumers of such systems important to help ensure “truly universal” MSS service”); *2 GHz Report and Order* at ¶ 14 (nongeostationary systems have the advantage that they “can provide complete and continuous global coverage,” but “portions of the 2 GHz MSS spectrum allocation are not uniformly available throughout the world”); *id.* at ¶ 146 (“ICO also notes that to require other countries to accept the U.S. spectrum sharing arrangement would be in violation of the U.S. commitments under the WTO Basic Telecom Agreement.”).

^{41/} See *Globalstar Protest* at 18.

^{42/} *Iridium Opposition* at 24.

band plan does not mean there is “no policeman” and has never been seen as conflicting with the rights of the licensing administration.

Iridium’s Opposition is silent about the impact that the *Modification Order* as written would have on its *own* operations abroad. The *Modification Order* seems to authorize Iridium’s satellites to provide service in other countries on Commission-ordained frequencies regardless of whether those frequencies are allocated to TDMA MSS carriers by the local band plan.^{43/} That would invade those countries’ sovereign prerogatives. It is no answer that each national regulator would retain the right to license earth stations. The Commission recognized in *DISCO I* that each country has the right to “grant[] permission for another country’s *satellite* to provide service or ‘land’ in its country.”^{44/} Iridium has already triggered complaints from national regulators for transmitting from its satellites on frequencies not permitted by the local band plans.^{45/} Were the *Modification Order* to become effective, Iridium could assert Commission sanction for such conduct, in derogation of the established international regime in which each sovereign regulates the use of spectrum within its borders.

III. GLOBALSTAR HAS MET THE REQUIREMENTS FOR A HEARING UNDER SECTION 316.

As we have shown, the Commission should rescind the *Modification Order* to the extent that it would give extraterritorial effect to the US MSS band plan. If the Commission declines to

^{43/} See *Globalstar Protest* at 4, n. 9. The order states that “the proposed modifications of [Globalstar’s and Iridium’s] space station authorizations would apply to the two systems’ *global space station operations*.” *Modification Order* at ¶ 4 (emphasis added).

^{44/} *DISCO I*, 11 FCC Rcd 2429, 2431 n. 14 (emphasis added).

^{45/} See, e.g., German Report of Harmful Interference, March 30, 2006, referenced in Globalstar’s *Ex Parte* Filing in IB Docket 02-364 (filed Feb. 6, 2007) at 3-4 and cited in *Globalstar Protest* at 17 & n. 53; German Report of Harmful Interference, June 22, 2006, cited in Globalstar’s *Ex Parte* Filing in IB Docket No. 02-364 (filed Sept. 21, 2006) at Exhibit 1.

rescind that aspect of the order, it should designate this matter for a hearing as required by section 316 of the Act and section 1.87 of the Commission's rules.^{46/} Iridium concedes that sections 316 and 309 together require a hearing if "a substantial and material question of fact is presented."^{47/} That is clearly true here. The Commission did not collect one scintilla of evidence on the impact on Globalstar or Iridium of the proposed change in their authorizations.

As set forth in Globalstar's Protest, the proposed modification is likely to have extensive and harmful impacts on Globalstar's ongoing and future operations outside of the United States, arising out of the fact that various circumstances make Globalstar's operations in many countries dependent on the use of frequencies between 1618.725 and 1621.35 MHz.^{48/} The extent and nature of these impacts are plainly "substantial and material question[s] of fact" that go to the reasonableness and lawfulness of the proposed modification.^{49/} The facts that Globalstar seeks to establish will show that the proposed modification would be "*prima facie* inconsistent with the public interest, convenience and necessity."^{50/}

^{46/} See 47 U.S.C. § 316; 47 C.F.R. § 1.87(e).

^{47/} See 47 U.S.C. § 316(a)(3); *id.* § 309(e); *Iridium Opposition* at 30.

^{48/} See *Globalstar Protest* at 20-22. These impacts are further detailed in the attached Affidavit of Anthony J. Navarra.

^{49/} See National Science and Technology Network, Inc., Licensee of Private Land Mobile Radio Station WPMJ456, Glendale, California; Fisher Wireless Services, Inc., Licensee of Private Land Mobile Radio Station WPNQ697, Running Springs, California, FCC File Nos. D108068 and C007248, *Memorandum Opinion and Order*, 23 FCC Rcd 3214 (2008) ("*National Science and Technology Network*") at ¶ 12 (citing Modification of FM or Television Licenses Pursuant to Section 316 of the Communications Act, *Order*, 2 FCC Rcd 3327 at ¶ 1 (1987) ("*Section 316 Order*")). See also, *Serafyn v. FCC*, 149 F.3d 1213 (D.C. Cir. 1998); *Citizens for Jazz on WRVR, Inc. v. FCC*, 775 F.2d 392, 394-95 (D.C. Cir. 1985).

^{50/} *National Science and Technology Network* at ¶ 12.

Iridium's attempts to dismiss these factual issues are cavalier and unavailing. The issues that Globalstar has identified are clearly factual and not "legal arguments couched as factual issues."^{51/} Nor is Globalstar tardy in raising the issues at this point. As detailed in Globalstar's Protest, the Commission and the parties focused exclusively in the *Big LEO Spectrum Sharing Proceeding* on the US band plan and the carriers' domestic operations until Iridium injected the issue of possible extraterritorial impact into the proceeding by its March 7, 2008 *ex parte* letter.^{52/} If anyone "sat back"^{53/} in this case, it was Iridium that held back its assertion of extraterritorial effect until four months after the Commission adopted the *November 9th Order*. Iridium could have filed a petition for reconsideration or clarification but did not, apparently determining four months later that the scope of the *November 9th Order* might not be to its liking. Iridium's assertion that the factual issues are not "substantial and material" because Globalstar "fails to cite

^{51/} *Iridium Opposition* at 31. For example, among other issues, the Commission must consider how (1) the restrictions placed on Globalstar's spectrum assignments in other parts of the world in order to protect the Russian GLONASS system and the Radio Astronomy Service would exacerbate the harm caused by the extraterritorial application of the revised Big LEO band plan; (2) Globalstar's need to avoid self-interference in operating the Globalstar satellite and earth station network impacts its ability to provide service around the world without using the frequencies between 1618.725 and 1621.35 MHz; (3) the authorizations that have been issued by foreign countries to Globalstar's affiliated and independent gateway operators affect their ability to communicate with the Globalstar satellite constellation without using the frequencies between 1618.725 and 1621.35 MHz; and (4) the *Modification Order* would affect Globalstar's ability to provide simplex data services.

^{52/} See *Globalstar Protest* at 4, 20-21; *Iridium Ex Parte Filing* in IB Docket No. 02-364 (filed Mar. 7, 2008) ("*Iridium March 7th Letter*"). Globalstar raised factual issues about the impacts of giving extraterritorial effect to the US band plan in its *ex parte* filings responding to Iridium's *March 7th Letter*. See *Globalstar Ex Parte Filing* in IB Docket No. 02-364 (filed Mar. 24, 2008); *Globalstar Ex Parte Filing* in IB Docket No. 02-364 (filed April 24, 2008).

^{53/} See *Iridium Opposition* at 32, quoting *Improving Public Safety Communications in the 800 MHz Band*, 20 FCC Rcd 1560, 1562 n. 21 (2005).

record evidence in support of its assertions of harm”^{54/} has things backwards – the function of a section 316 hearing is to *establish* a record on the factual issues.

Globalstar is prepared to show that giving effect to the *Modification Order* would cause very substantial harm to Globalstar, its independent gateway operators, and its customers – who in many of the countries at issue include U.S. military and special operations forces, local first responders, and other government and public safety organizations. Iridium’s assertion (at 33) that the facts relating to these harms are “irrelevant to this proceeding” defies logic. The Commission’s primary justification for modifying the US Big LEO band plan in the *November 9th Order* was Iridium’s assertion that it needed access to additional spectrum to meet its current and future customer needs.^{55/} For Iridium to contend now that the impact of the *Modification Order* on Globalstar’s usable spectrum and customers in all of the countries outside of the United States in which it operates is “irrelevant” strains the limits of inconsistent pleading.

In sum, the *Modification Order* raises substantial and material questions of fact that the Commission has never had occasion to consider. Only through a hearing conducted pursuant to section 316 can the Commission properly determine whether the public interest, convenience, and necessity would best be served by allowing the extraterritorial aspect of the *Modification Order* to stand.

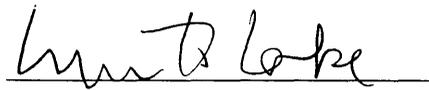
^{54/} *Iridium Opposition* at 33.

^{55/} See *November 9th Order* at ¶ 16 (“Iridium has shown that the communications traffic it is handling has increased substantially. Further, Iridium argues it will need more spectrum to provide full-rate voice channels and higher speed data transmissions, as well as to accommodate peak demand.”).

Conclusion

For these reasons and those stated in Globalstar's Protest, the Commission should rescind the *Modification Order* insofar as it purports to dictate the frequencies on which Globalstar and Iridium may provide service in other countries. In the absence of such relief, the Commission should designate this matter for hearing.

Respectfully submitted,



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*Counsel for Globalstar Licensee LLC and
GUSA Licensee LLC*

June 23, 2008

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Globalstar Licensee LLC	)	Call Sign S2115
GUSA Licensee LLC	)	Call Sign E970381
)	
Iridium Constellation LLC	)	Call Sign S2110
)	
Iridium Satellite LLC	)	Call Sign E960132
Iridium Carrier Services	)	Call Sign E960622
)	
Modification of Authority to)	
Operate a Mobile Satellite System in the)	
1.6 GHz Frequency Band)	
)	

AFFIDAVIT OF ANTHONY J. NAVARRA

1. My name is Anthony J. Navarra. I am the President of Global Operations for Globalstar, Inc. (“Globalstar”). I have been employed at Globalstar, or its predecessor companies, for 17 years. I have more than 36 years of experience in the satellite industry, and have spent the last 10 years overseeing the design, launch and operation of Globalstar’s Big LEO Mobile Satellite Service (“MSS”) operations. In this capacity, I have direct and personal knowledge regarding the technical design and operations of Globalstar’s satellite constellation worldwide. Prior to joining Globalstar, I was Vice President of both Engineering and Marketing at the Rolm Mil-Spec Computers division of Loral Corporation, where I was responsible for managing the product development of military computers, high-speed mass storage devices, and satellite communications processors. From 1984 to 1987, I was employed by TRW as business area director of Milstar Satellite and Terminal Technologies. Prior to that, I worked for Magnavox

Research Laboratories and Government Electronics Company in developing, fielding, and operating CDMA spread spectrum terminals on various DoD platforms. I hold a Bachelor of Science degree in physics from the University of San Francisco and a Master of Science degree in Systems Management from the University of Southern California.

2. This affidavit is being submitted in support of Globalstar's June 6, 2008, Protest of the *Order Proposing Modifications*, FCC 08-125, issued by the Federal Communications Commission ("FCC") on May 7, 2008 ("*Modification Order*"). The *Modification Order* proposes to modify the space station and earth station licenses held by Globalstar and Iridium Constellation LLC and its affiliated companies for the operation of their respective MSS systems. The *Modification Order* was issued in order to give effect to the FCC's November 9, 2007, *Second Report and Order* in IB Docket No. 02-364 ("*November 9th Order*"), which revised the Big LEO spectrum sharing plan in the United States by reassigning the spectrum between 1618.725 and 1621.35 MHz that previously was reserved Globalstar and any future CDMA carriers, to be used now exclusively by Iridium, the only Big LEO MSS provider that uses TDMA technologies.

3. Throughout the course of the FCC's proceeding in IB Docket No. 02-364 considering whether to require that Globalstar share some of its spectrum in the United States with Iridium, the FCC has requested, and Globalstar has supplied, extensive factual information for the record concerning the impact that any such sharing requirements would have on Globalstar's operations in the United States. Because the FCC never provided any notice, until the issuance of the *Modification Order* now subject to protest, that it would require that Globalstar operate throughout the rest of the world in conformance with the Big LEO MSS band plan that the FCC

has established in the United States, Globalstar has never been asked for, and as a result, has never submitted for the record any factual evidence demonstrating the significant and far-reaching impact that that such a decision would have on Globalstar's operations abroad. In particular, the record before the FCC contains no factual information concerning the harm that would result not only to Globalstar, but also to its customers and the unaffiliated companies that operate its gateways outside of the United States, if Globalstar were prohibited from operating in the rest of the world on the frequencies that the FCC has now reassigned from Globalstar to Iridium in the United States.

4. Globalstar and its independent gateway operators today rely on the frequencies between 1618.725 and 1621.35 MHz to provide MSS service via three gateways in Russia (Moscow, Khabarovsk and Novosibirsk), two gateways in Brazil (Manaus and Petrolina), and a gateway each in France (Aussaguel), Turkey (Ogulbey), and Australia (Meekatharra). Those gateways provide service to the countries shown in Attachment 1 to this Affidavit. Globalstar's subsidiaries operate the gateways in Brazil and France; however, unaffiliated independent gateway operators ("IGOs") operate and hold the earth station frequency licenses in the other countries. In many of these countries, Globalstar includes among its customers U.S. military and special operations forces, as well as local first responders and other government and public safety organizations.

5. If Globalstar were prohibited from using the frequencies between 1618.725 and 1621.35 MHz anywhere in the world going forward, Globalstar would be forced to cease – or dramatically scale back – service in many of these countries for reasons that are entirely beyond Globalstar's control. As described below, these include (1) restrictions placed on Globalstar's

spectrum assignment in order to protect other services operating in certain parts of the world in the same or adjacent frequencies (such as the Russian GLONASS and the Radio Astronomy Service); (2) the need to avoid self-interference in operating the Globalstar satellite and earth station network; and (3) limitations in many of the licenses for the earth stations in foreign countries that communicate with the Globalstar satellite constellation. In addition, for the gateways operated by IGOs, the Commission's action would likely place Globalstar in breach of its Satellite Services Agreements with the IGOs, which agreements provide that Globalstar will make satellite channels available for them between 1610 and 1621.35 MHz.

6. Because Globalstar is required to protect both the Radionavigation Satellite Service and the Radioastronomy Service operating between 1559-1610 MHz and 1610.6-1613.8 MHz, respectively, Globalstar's use of its channels 1-3 is restricted in certain countries, most notably Russia, where Globalstar may not operate below 1616 MHz. As a result of these encumbrances, if the FCC were to prohibit Globalstar's use of the spectrum between 1618.725 and 1621.35 MHz as suggested in the *Modification Order*, then Globalstar would simply not have sufficient spectrum to continue to provide global service as it is required to do by its FCC license.

7. The Globalstar satellite system has been designed to use combinations of nine L-band and thirteen S-band channels to provide service throughout the world. Because of the need to prevent interference among neighboring operations through frequency separation, Globalstar cannot assign the same channels to two adjacent gateways; doing so would result in intolerable interference from Globalstar's own operations in the regions covered by each gateway. Globalstar's second generation constellation, construction of which is now well underway with the first satellite launches scheduled for the third quarter of 2009, has been designed to be

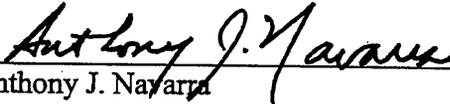
backward compatible with the existing constellation, and accordingly must use the same channel combinations.

8. In addition, Globalstar cannot provide its simplex data services on the same channels that it provides MSS voice and other duplex services. Currently, Globalstar uses L-band channels 1 and 2 to provide simplex services in North America, and channels 5 and 6 in the rest of the world. If Globalstar were prohibited from using L-band channels 8 and 9 outside the United States for voice services, it would have to reduce the number of channels available for simplex services. Simplex data services represent the fastest-growing segment of Globalstar's business both in the United States and abroad. The enormous growth in demand for these services makes clear that they are highly valued, and any loss of spectrum that would force Globalstar to discontinue such services would be devastating to Globalstar's future business and a hardship to its growing customer base in many countries.

9. I understand that the FCC has stated that it will entertain requests by Globalstar for waiver of the FCC's decision in the *Modification Order* to the extent that Globalstar's earth station authorizations in specific countries are limited to less than Globalstar's full remaining spectrum between 1610- 1618.725 MHz. The FCC's suggestion that a waiver process might mitigate the substantial harm to Globalstar's global operations from extraterritorial application of the revised U.S. band plan adopted in the *November 9th Order* grossly underestimates the impact of its decision. As discussed above, Globalstar's operations in numerous countries would be affected if the U.S. band plan adopted in the *November 9th Order* were applied outside of the United States, which makes clear that isolated waivers would not adequately address the harms caused by the order.

10. In addition, the fact that the frequency assignments set forth in the earth station licenses held by certain of Globalstar's IGOs abroad are limited to less than Globalstar's full remaining spectrum between 1610-1618.725 MHz represents only one aspect of the harm that the *Modification Order* will cause Globalstar and its customers. As I explain above, imposition of the revised U.S. band plan on Globalstar's operations abroad also would cause significant harm to Globalstar because of the restrictions placed on Globalstar's spectrum assignments in other parts of the world in order to protect other services operating in the same or adjacent frequencies (such as the Russian GLONASS system and the Radio Astronomy Service), as well as Globalstar's need to avoid self-interference in operating the Globalstar satellite and earth station network. The waiver process suggested in the *Modification Order* does not appear to address these separate and distinct difficulties that Globalstar would experience as a result of extraterritorial application of the revised U.S. Big LEO band plan.

I declare under penalty of perjury that the foregoing is true and correct.



Anthony J. Navarra

Executed on June 23, 2008

ATTACHMENT 1

NON-US TERRITORIES (LAND AND OCEAN) AFFECTED BY THE FCC'S MODIFICATION ORDER

COUNTRY/REGION	GATEWAY LOCATION
Algeria	Aussaguel, France
Andorra	Aussaguel, France
Azores	Aussaguel, France
Baltic Sea	Aussaguel, France
Belgium	Aussaguel, France
Czech Republic	Aussaguel, France
Denmark	Aussaguel, France
Faeroe Islands	Aussaguel, France
France	Aussaguel, France
Germany	Aussaguel, France
Gibraltar	Aussaguel, France
Iceland	Aussaguel, France
Ireland	Aussaguel, France
Jan Mayen Is (Norway)	Aussaguel, France
Luxembourg	Aussaguel, France
Mauritania	Aussaguel, France
Morocco	Aussaguel, France
Netherlands	Aussaguel, France
Norway	Aussaguel, France
Norwegian Sea (Partial)	Aussaguel, France
Poland	Aussaguel, France
Portugal	Aussaguel, France
Spain	Aussaguel, France
Sweden	Aussaguel, France
Tunisia	Aussaguel, France
United Kingdom	Aussaguel, France
Western Sahara	Aussaguel, France
Russia	Khabarovsk, Russia
North Japan	Khabarovsk, Russia
Australia	Meekatharra, Australia
Brazil	Manaus, Brazil
Arctic Ocean	Moscow, Russia
Armenia	Moscow, Russia
Azerbaijan	Moscow, Russia
Barents Sea	Moscow, Russia
Caspian Sea	Moscow, Russia
Georgia	Moscow, Russia
Kalingrad	Moscow, Russia
Russia	Moscow, Russia
Turkmenistan	Moscow, Russia

Afghanistan
Aral Sea
Kazakstan
Kyrgyzstan
Mongolia
Russia
Tajikistan
Uzbekistan

Novosibirsk, Russia
Novosibirsk, Russia

Bahrain
Djibouti
Egypt
Iraq
Jordan
Kuwait
Lebanon
Palestine
Qatar
Red Sea
Saudi Arabia
Turkey
United Arab Emirates

Ogulbey, Turkey
Ogulbey, Turkey

Atlantic Ocean
Brazil

Petrolina, Brazil
Petrolina, Brazil

CERTIFICATE OF SERVICE

I, Josh L. Roland, do hereby certify that a copy of the foregoing Reply of Globalstar to Opposition of Iridium was served by hand this 23rd day of June, 2008, on the following parties, unless otherwise noted:

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*By United States Postal Service, First Class postage prepaid.

June 23, 2008