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

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In the Matter of 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 to the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services	CC Docket No. 92-297

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CONSOLIDATED REPLY

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To: The Commission

CONSOLIDATED REPLY

Motorola Satellite Communications, Inc. ("Motorola") respectfully submits this Consolidated Reply to the Oppositions and Comments filed in response to Motorola's Petition for Partial Reconsideration ("Petition") in the above-captioned proceeding.[1]

Motorola was an active participant in the numerous negotiations that resulted in the 28 GHz band sharing plan set out by the Commission in the First Order.[2] Motorola fully supports the compromise band plan and has never indicated

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[1] First Report and Order and Fourth Notice of Proposed Rulemaking, FCC 96-311 (rel. July 22, 1996) (61 F.R. 44177, (August 28, 1996) ("First Order").

[2] Motorola is a licensee in the 1.6 GHz band to provide Mobile Satellite Service ("MSS"), as well as the 19/28 GHz bands for its feeder links and system control operations for the IRIDIUM® System. Motorola Satellite Communications, Inc., 10 FCC Rcd 2268 (Int'l Bureau 1995); reconsideration denied, Memorandum Opinion and Order, FCC 96-279 (rel. June 27, 1996).

otherwise. Therefore, it is left to wonder why the GSO FSS parties have responded with such uncalled for ad hominem attacks. Rather than attempting to gain immediate access to the 29.25-29.50 GHz band in the United States, as the GSO FSS parties vociferously suggest, Motorola is simply attempting to ensure that the Commission did not intend to prohibit it from using these bands under any circumstances in the future. Moreover, Motorola is urging that the Commission rethink a technical requirement for use of these bands that was not subject to public consideration and will not facilitate sharing in the band on a worldwide basis. Motorola's position is supported by the only other NGSO MSS proponent with an interest in these bands, TRW, which does not even believe this technical requirement was part of its sharing agreement with the FSS community or should be imposed as a condition for its use of the bands. Without even TRW's support, there is no conceivable reason for imposing a "repeating ground tracks" requirement for NGSO MSS systems.

I. MOTOROLA FULLY SUPPORTS THE COMMISSION'S 28 GHZ BAND SHARING PLAN

Motorola again states unequivocally that it fully supports the Commission's 28 GHz band plan. Notwithstanding the empty rhetoric of Hughes Galaxy and others, nowhere in the Petition does Motorola seek to reopen the band sharing compromises reached by the Commission. As Motorola stated in its Petition and reiterates here:

> The Commission's 28 GHz band plan is a masterstroke in compromise in an unprecedented spectrum allocation situation. Motorola applauds the Commission's efforts to

find creative solutions in what has been an exceedingly complex and contentious set of issues.

The GSO FSS parties' vitriol is an attempt to avoid confronting the issues raised by Motorola. Motorola was first concerned with text in the body of the First Report that could be read to prohibit Motorola from ever using the 29.25-29.50 MHz band irrespective of future sharing techniques that may evolve to permit sharing between NGSO MSS systems and GSO MSS systems. The Oppositions suggest just such a mistaken interpretation of the Commission's language and the Commission should clarify its meaning.

Hughes' "attack dog" Opposition is particularly bereft of any focus on the substance of the actual issue raised by Motorola. Contrary to Hughes' characterization, Motorola is not in any way seeking to alter the Commission's band plan. Motorola is not presently seeking access to more than the 150 MHz provided for in the band plan and does not object to the use of "repeating ground tracks" as part of any private coordination arrangement that may exist between TRW and GSO FSS interests. Moreover, Motorola quite obviously did not set out to construct a system that could not share with GSO FSS broadband systems. In fact, these FSS proposals did not exist when the IRIDIUM® System was first proposed. Nevertheless, the record is clear that Motorola is ready and willing to coordinate with GSO FSS systems. Hughes' claim that the IRIDIUM System cannot coordinate with GSO FSS[3/] is undermined by the

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[3/] Hughes Opposition at 13 n.26.

evidence. Iridium has completed coordination with GSO systems in Italy and Japan.[4] Unfortunately, Iridium has not found the same spirit of cooperation within the U.S.

It is crucial that there be no misinterpretation of the Commission's language concerning Motorola's use of the 29.25-29.50 GHz band. In the First Report, the Commission stated that "Motorola will be limited to operating its feeder links within this 150 MHz band, since Motorola indicates it will be unable to share with GSO/FSS systems in the adjoining band."[5] As Motorola justifiably feared, several parties read this language as an outright prohibition on Motorola's use of the band. Hughes for one argues that Motorola should not be even be permitted to attempt to access the band.[6]

Moreover, despite TRW's claim that its sharing agreement can be replicated by other NGSO MSS systems who wish to use these bands,[7] the fact remains that the Commission has condoned a sharing arrangement that both TRW and Hughes Galaxy admit "applies to one specific NGSO MSS system: Odyssey."[8] Motorola is justifiably concerned that the others will view the Commission's language within the context of the sharing plan as an outright prohibition on Motorola's possible future use of the band.

Motorola merely urges the Commission to clarify that the IRIDIUM® System, and NGSO MSS operators other than TRW, would be permitted access to the

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[4] See Motorola Petition at 9.

[5] First Report at ¶63.

[6] Hughes Opposition at 12.

[7] TRW Opposition at 3 n.5.

[8] See Motorola Opposition at 4-5 citing Hughes Ex Parte Letter of February 6, 1996 and TRW Ex Parte Presentation of February 5, 1996.

band upon a showing of an ability to share the band with GSO FSS systems. Otherwise, what the Commission has designated as co-primary NGSO MSS spectrum would be effectively transformed into GSO FSS primary spectrum. Motorola does not believe this result was the Commission's intended meaning and seeks clarification.[9]

II. THE "REPEATING GROUND TRACKS" REQUIREMENT FOR OPERATING AT 29.25-29.50 IS NOT NECESSARY FOR SHARING IN THE BAND

Motorola demonstrated in its Petition that the Commission's imposition of a new rule --25.258(c) -- that requires NGSO MSS systems to employ "repeating ground tracks" would not facilitate sharing of the band, but could in fact impede sharing by any additional NGSO MSS operators other than TRW's Odyssey system. Motorola was also concerned that a hastily adopted rule that was not subject to full public vetting could soon become a de facto world standard for operation in the 29.25-29.50 GHz band. The analysis that accompanied Motorola's Petition indicated that such a rule would have severe consequences for long term use of the bands. The Oppositions have not refuted Motorola's conclusions.

In fact, TRW, one of the supposed beneficiaries of the "repeating ground tracks" requirement, indicates that such a rule was never part of its coordination agreement with the GSO FSS community and is not necessary for sharing. The

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[9] Thus, the arguments of several of the parties as to Motorola's admitted inability to share the band with GSO FSS broadband operations are wholly irrelevant. See, e.g., Hughes Opposition at 3-5; Lockheed Martin Comments at 10; GE Americom Opposition at 5. These arguments miss the point. Motorola is simply seeking to ensure that it is not foreclosed from using a band allocated for NGSO MSS feeder link operations if future sharing proves possible due to inadvertent language in the text of the Commission's First Report.

Commission should therefore rethink the imposition of a technical requirement that has no obvious value other than to limit NGSO MSS use of bands allocated for such use on a co-primary basis.

A. Motorola Never Agreed to a "Repeating Ground Tracks" Requirement As It Was Never Included in Any Sharing Arrangement

Several of the GSO FSS parties suggest that Motorola previously agreed to the adoption of a "repeating ground tracks" requirement for operation in this band or should have known that this requirement would be adopted by the Commission. Nothing could be further from the truth.

Hughes cites to a document that it claims demonstrates Motorola's agreement to this requirement.[10/] Not surprisingly, Hughes can identify no place in the record, either subsequent or prior to the filing of this letter, where "agreed to interservice sharing rules" included a requirement for "repeating ground tracks." As confirmed by TRW and discussed below, repeating ground tracks were never agreed to as an interservice sharing requirement.

More importantly, Motorola is rightly dismayed that such a restrictive rule, which received no formal consideration by interested and expert entities, would be adopted by the Commission. TRW confirms Motorola's justifiable concern over the genesis of the rule.

> Motorola correctly observes that the "constant successive ground tracks" requirement of new Section 25.258(c) of the Commission's rules had no obvious antecedent in the various arrangements that were reached between and

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10/ Hughes Opposition at 1, 5. Motorola has provided a copy of this document as Appendix A

> among NGSO/MSS feeder link operators and GSO/FSS applicants during the course of this proceeding.[11]

> Motorola is correct in its assertion that the requirement of new Section 25.258(c) ... appeared for the first time in Appendix B to the First Report and Order.[12]

Hughes claims that Motorola learned of and agreed to a "repeating ground tracks" rule at specified meetings.[13] While the terms "nodal regression" or "repeating ground tracks" may have been raised at one of the many meetings Motorola representatives attended, this does not constitute sufficient notice to Motorola or the public of the Commission's intent to adopt a rule.[14] As Motorola explained in its Petition, an agency cannot provide public notice of a proposed rule through the comments (or ex parte discussions) of the parties.[15]

While Hughes and others claim that a "repeating ground tracks" requirement is part-and-parcel of an industry-wide consensus band plan that Motorola

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[11] TRW Opposition at 2.

[12] Id. at 7.

[13] Hughes Opposition at 8.

[14] Moreover, Motorola's attendance at a meeting where the subject might have been raised cannot be transformed into its agreement to and support for the requirement.

[15] Motorola Petition at 3 citing MCI v. F.C.C., 57 F3d 1136, 1140-1142 (D.C. Cir. 1995); Small Refiner's Lead Phase-Down Task Force v. E.P.A., 705 F.2d 506, 549-550 (D.C. Cir. 1983). Hughes' suggestion that the "nodal regression" requirement is a "logical outgrowth" of this proceeding is completely unsupported by the facts. Hughes Opposition at 7 n.11. While Hughes argues that the rule is a "logical outgrowth" of the Commission's intention to impose a spectrum sharing plan, TRW explains that the requirement was never part of its sharing arrangement with the GSO FSS community. TRW Opposition at 2-3. Hughes also claims that since the Commission raised a general question in its Second Notice of Proposed Rulemaking on what technical rules were necessary for sharing, the Commission did not then have to give notice of the specific sharing rules it intended to impose in its Third Notice of Proposed Rulemaking. This claim is completely undermined by the fact that the Commission subsequently set forth the specific "technical rules" it intended to adopt to facilitate sharing between LMDS and NGSO MSS operators in the 29.1-29.25 GHz band. See, e.g., Third Notice, 11 FCC Rcd at 131-32, 135.

endorsed,[16] TRW's pleading exposes Hughes' gross distortion of the facts. As TRW explains, "[t]he rule was not one of the sharing principles agreed [to] by TRW and GSO/FSS interests earlier this year." [17] TRW goes on to explain that the "prospect for successful sharing ...is not dependent on TRW's maintenance of constant successive ground tracks for Odyssey™."[18] TRW's assertion that it did not agree to abide by such a requirement is reflected in its June ex parte presentation to the Commission. There, TRW sets out the same sharing principles adopted by the Commission in its First Report. These sharing principles do not include a commitment to use repeating ground tracks.[19]

B. The Rule Will Not Facilitate Sharing in the Band

The claims of the GSO FSS commenters do not contradict Motorola's demonstration that a "repeating ground tracks" rule will have no value other than to keep future NGSO MSS feeder link operations from using the band. Hughes and AT&T essentially argue that using "repeating ground tracks" is better than nothing at all.[20] However, as Motorola explained in its Petition, the methodology only works when applied to the first NGSO MSS system, not future NGSO MSS systems. Given the number of NGSO systems (each with large numbers of satellites) which could be

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16/ Hughes Opposition at 8.

17/ TRW Opposition at 3. (emphasis added). "Despite the fact that the requirement for the maintenance of constant successive ground tracks first appeared in the final rules, Motorola apparently is operating under the [mistaken] assumption that the requirement that is now in Section 25.258(c) of the Commission's rules was part of the sharing arrangements." Id.

18/ Id. at 6 (emphasis added).

19/ TRW Ex Parte Presentation in CC Docket 92-297, June 3, 1996, at 6(c); First Report at ¶ 73.

20/ AT&T Opposition at 5 n.12; Hughes Opposition at 8-9.

deployed in the future, repeating ground track dissimilarities caused by NGSO systems operating at different altitudes and inclinations (even if they are in accord with 25.258 (c)) would eliminate any possibility that there would be "white" areas left for GSO FSS terminals that are free from interference. In addition, as the number of NGSO satellites increases, additional GSO earth terminals would be guaranteed regular interference events. Therefore, the inevitable growth of the NGSO MSS industry would require yet another sharing method to mitigate this artificially generated interference.

Lockheed Martin makes much of the unique nature of Odyssey's constellation to the promotion of sharing.[21/] However, Lockheed Martin fails to recognize that there is as much predictability with orbits that do not provide for repeating ground tracks as those that do. Moreover, quasi-random tracks create a more uniform sharing environment that will not require the grouping of earth terminals as new systems seek coordination.[22/]

While Hughes blithely suggests that the Commission should not be concerned with the global impact of a "repeating ground track" requirement,[23/] Motorola's analysis demonstrated that such a requirement will have no value as a sharing technique for future NGSO MSS systems. The Commission must look to the

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21/ Lockheed Martin Comments at 14. By doing so, it confirms Motorola's point; that this sharing arrangement (if repeating ground tracks are required) will effectively preclude any future NGSO MSS use of the band other than Odyssey's.

22/ Motorola notes that the rule also fails to define a time frame for the ground tracks to repeat. All ground tracks repeat at some point if enough time is allowed. While Lockheed Martin would then likely suggest that the rule need only be "touched up" during Reconsideration to meet the sharing requirements of the GSO FSS systems, See, e.g., Lockheed Opposition at 17 n.20, it is just such an ad hoc approach to rule making that threatens to create a rule that eliminates all possible use of the band for NGSO MSS systems other than Odyssey.

23/ Hughes Opposition at 10 n.21.

global impact of a rule that is certain to have a detrimental impact on NGSO MSS systems that operate on a global basis.

III. CONCLUSION

The Commission should clarify the language in its First Report that suggests that the IRIDIUM® System will not be authorized to use the 29.25-29.50 GHz band under any circumstances. The Commission should also delete its rule requiring the use of repeating ground tracks in this band. This rule was not supported by Motorola or any NGSO MSS interest, is not a part of the sharing arrangement agreed to by TRW or Motorola, and will create significant impediments to using the band.

Respectfully submitted,

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Dated: November 4, 1996

ENGINEERING CERTIFICATE

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in the foregoing Consolidated Reply, that I am familiar with Part 25 of the Commission's Rules, that I have either prepared or reviewed the engineering information submitted herewith, and that it is complete and accurate to the best of my knowledge and belief.

By: _____
Stephen J. Clark
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Dated: November 4, 1996

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By Hand

Chairman Reed E. Hundt
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Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

Re: Ex Parte Presentation
CC Docket No. 92-297

Dear Chairman and Commissioners:

During the last four years, the Local Multipoint Distribution Service ("LMDS"), Fixed Satellite Service ("FSS") and Mobile Satellite Service ("MSS") industries have labored with the Commission to develop acceptable regulations to maximize the shared use of the 28 GHz band by competing video, telephony and data service providers. The Commission's 28 GHz rulemaking proceeding has included separate Notices of Proposed Rulemaking adopted in December 1992, January 1994 and July 1995, as well as a Negotiated Rulemaking between the affected industries held in July-September 1994. The signatories to this letter support the Commission's desire to accommodate the maximum number of competing services in the largely fallow, yet enormously valuable, 28 GHz spectrum.

In July 1995, almost one year ago, the Commission by a unanimous vote adopted the Third Notice of Proposed Rulemaking in this proceeding, which set forth a 28 GHz band plan that was embraced by most participants among the diverse industries participating in this protracted rulemaking proceeding. While the Commission's comprehensive band segmentation plan did not fully satisfy the claimed spectrum needs of FSS, MSS and LMDS interests, the record in this proceeding reflects that it nonetheless was viewed generally by each of the affected industries as a reasonable compromise that would end this protracted proceeding and allow these services to go forward. During the past year, attempts by the Commission, working with the affected industries, to fine tune the Third NPRM band plan have been unsuccessful and have only further delayed the deployment of 28 GHz-based services. Despite these good faith efforts to improve the 28 GHz band plan, there appears to be more opposition to the

various recently developed band plan options under consideration by the Commission than there was to the Third NPRM band plan that the Commission embraced 11 months ago.

Accordingly, the undersigned parties urge the Commission to promptly conclude the 28 GHz rulemaking proceeding with the adoption of the band segmentation plan it proposed by a unanimous vote in the Third NPRM, as supplemented by the interservice sharing rules that have been agreed to subsequently. Further delay in the resolution of this proceeding threatens to severely hamper the U.S. leadership role in the LMDS, FSS and MSS industries, particularly in view of recent developments in Canada and elsewhere confirming that other countries are moving forward with 28 GHz spectrum allocations while the U.S. proceeding remains stalled.

Respectfully submitted,

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I, Brent H. Weingardt, do hereby certify that a copy of the foregoing **Consolidated Reply** has been sent, via first class mail, postage prepaid, (or as otherwise indicated) on this 4th day of November, 1996 to the following:

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