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

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of	)	
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Allocation and Designation of Spectrum for Fixed Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz, and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations	)	IB Docket No. 97-95 RM-8811

PETITION FOR RECONSIDERATION

Hughes Communications, Inc. ("HCI") hereby petitions for reconsideration of the Commission's Report and Order in the above-captioned proceeding,[1] in which the Commission designated and reallocated certain portions of the 36.0 - 51.4 GHz band (the "*V Band*") for various commercial and government uses. As set forth below, the Commission's adoption of the V Band Order was arbitrary and capricious.

I. INTRODUCTION

The V Band Order, among other actions, designates 4.0 GHz of spectrum for satellite use and 5.6 GHz of spectrum for use by wireless services. This unequal designation of

[1] *Allocation and Designation of Spectrum for Fixed Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz, and 48.2-50.2 GHz Frequency Bands*, 64 Fed. Reg. 2585 (January 15, 1999) (the "*V Band Order*").

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spectrum is contrary to the broad and deep record that the satellite industry has developed in this proceeding, which details the need for at least 6 GHz of spectrum for satellite use at V Band. Not only did the satellite industry submit extensive pleadings demonstrating this need, but the satellite industry also filed fifteen applications for satellite systems that will use V Band spectrum, which applications demonstrate even more concretely the need for at least 6 GHz of spectrum for satellite use. Perhaps more importantly, the terrestrial fixed service commenters in this proceeding have failed to make any case, or express any desire, for terrestrial use of spectrum above 40.0 GHz.

As the Commission's apportionment of spectrum between satellite and wireless services is not supported by the record, the decision is contrary to the Commission's responsibilities under the Administrative Procedure Act ("*APA*"). The Commission also completely failed to explain its unequal apportionment of spectrum except in the most conclusory manner and this failure provides another, separate infirmity under the APA. Thus, the decision should be modified to designate at least 6 GHz of V Band spectrum for satellite use.

II. THE DESIGNATION OF V BAND SPECTRUM IS UNEXPLAINED, UNSUPPORTED, AND ARBITRARY

The APA imposes certain core requirements upon any Commission rulemaking action. In every informal notice and comment rulemaking proceeding, the Commission must, in its decision, (i) provide a reasoned basis for its decision, (ii) consider all of the evidence presented to it, and (iii) articulate a rational connection between the facts presented to the Commission and the choice it has made.[2] The Commission's decisions must also be supported

[2] *See Motor Vehicle Manufacturers Association of the United States v. State Farm,* 463 U.S. 29, 46-57 (1983); *Sithe/Independence Power Partners, L.P. v. FERC,* 1999 U.S. App. LEXIS 1160, at *17, *24-25 (D.C. Cir. January 29, 1999) (agency must provide clear explanation of rationale and reveal the data and assumptions underlying its findings); *Schurz Communications v. FCC,* 982 F.2d 1043, 1050 (7th Cir. 1992) (vacating an

by the record[3] and must respond to well-supported arguments that are contrary to the Commission's ultimate decision.[4] Thus, the Commission may not cavalierly dismiss arguments with which it does not agree.[5] In the V Band Order, the Commission did not meet its burden under the APA with respect to a core element of that decision: the apportionment of spectrum between satellite services and terrestrial wireless services.

In the V Band Order, the Commission followed its tentative decision in the V Band NPRM[6] and designated 4.0 GHz of spectrum for satellite use and 5.6 GHz of spectrum for use by wireless services. In making this unequal apportionment of V Band spectrum between satellite and terrestrial wireless services, the Commission failed to adequately explain its decision and, furthermore, acted contrary to the strong evidence in the record regarding the relative spectrum needs of the satellite industry and terrestrial wireless industry.

The Commission's stated basis for its unequal designation of spectrum to wireless services is that the designations "strike[] a reasonable balance among competing services and provide[] service providers the opportunity to meet their current and projected future needs."[7] Yet, the Commission provides little beyond this conclusory statement to justify or explain the balance it purports to strike in its decision. While the Commission does mention two tangentially related factors (discussed below), the Commission does not deal at all with the core

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FCC rule because key concepts were left unexplained and key evidence was overlooked); *Flagstaff Broadcasting Foundation v. FCC*, 979 F.2d 1566 (D.C. Cir. 1992) (the court will set aside an action by the Commission when it fails to provide a reasoned basis for its decision); *Bechtel v. FCC*, 957 F.2d 873, 881 (D.C. Cir. 1992) (Commission must address serious challenges); *see also Action for Children's Television v. FCC*, 821 F.2d 741, 746 (D.C. Cir. 1987).

3 *See Action for Children's Television v. FCC*, 852 F.2d 1332, 1341, 1343 (D.C. Cir. 1988).

4 *Illinois Public Telecommunications Association v. FCC*, 117 F.3d 555, 564 (D.C. Cir. 1997).

5 *Id.*

6 *Allocation and Designation of Spectrum for Fixed Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz, and 48.2-50.2 GHz Frequency Bands*, 12 FCC Rcd 10130 (1997) (the "*V Band NPRM*").

7 V Band Order at ¶ 28.

issue of the absence of record support for its apportionment of fully 5.6 GHz of V Band spectrum to terrestrial wireless services.

Not only does the Commission fail to adequately explain how the record supports its spectrum designation decision, but the Commission's description of the record in this proceeding (which is fairly accurate and instructive) undercuts the Commission's own decision. As the Commission notes, "[t]he majority of satellite commenters argue that they need more spectrum designated for long term satellite use than the 4 Gigahertz proposed in the NPRM."[8] In fact, the Commission acknowledges that nearly every satellite industry commenter urged the Commission to designate at least 6 GHz of V Band spectrum for satellite systems.[9] Indeed, as HCI noted in its Reply Comments, "[t]he satellite industry is nearly unanimous in the view that the Commission's proposal to designate only 2 GHz in each direction for satellite use would severely impair the viability of future broadband satellite systems at [V Band], and, in doing so, would leave the future demand for these systems unsatisfied."[10] Furthermore, the Commission also notes that the satellite industry filed fifteen satellite system applications requesting use of V Band spectrum after the close of the pleading cycle in this proceeding.[11] Seven of these applications requested the use of at least 6 GHz of V Band spectrum.[12] The fifteen applications together strongly support the earlier-filed contentions of the satellite commenters that satellite

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8 V Band Order at ¶ 27.

9 *Id.*

10 Reply Comments of Hughes Communications, Inc. at 7, IB Docket No. 97-95 (filed June 3, 1997) ("*HCI Reply Comments*") (citing Comments of GE American Communications, Inc., Lockheed Martin Corporation, Motorola, Inc., the Satellite Industry Association, and TRW Inc.).

11 V Band Order at ¶ 11.

12 *See* Applications of Hughes Communications, Inc. (Spacecast and Expressway), Motorola, Inc. (M-Star), GE American Communications (GE*StarPlus), Lockheed Martin Corporation (Global Q/V-Band Satellite Communications System), TRW Inc. (TRW Global EHF Satellite Network), PanAmSat Corporation (V-Stream).

demand for V Band spectrum is great and the proposal in the NPRM was insufficient to meet that demand. The Commission fails to explain its decision to discount this strong evidence of satellite demand for V Band spectrum.

As to the comments submitted by the terrestrial wireless industry, the Commission also indicates that "[s]everal wireless commenters express[ed] general support for the Commission's proposed band plan."[13] Indeed, "general support" greatly overstates the case because, as indicated in the HCI Reply Comments, "the terrestrial industry was virtually silent as to its need, or even its desire, for terrestrial spectrum designations outside of the 38.6 - 40.0 GHz band."[14] Furthermore, as the Commission notes, the TIA-Fixed Section, which was the only terrestrial interest to submit a full proposed band plan, only requested 4.6 GHz of wireless spectrum in each of its alternative band plans, as opposed to the 5.6 GHz that the Commission ultimately designated for wireless services.[15]

The Commission designated 37.0 - 37.6 GHz, 38.6 - 40.0 GHz, 41.0 - 42.5 GHz, 47.2 - 48.2 GHz and 50.4 - 51.4 GHz for wireless services . Even assuming for the sake of argument that the Commission's designation of 47.2 - 48.2 for wireless services in the 47 GHz proceeding is supported by the record in that proceeding (a proposition that HCI has disputed) the designations at 41.0 - 42.5 GHz and 50.4 - 51.4 GHz are entirely unsupported by the record, unexplained by the Commission, and therefore are arbitrary and capricious. Perhaps if this spectrum were not needed for satellite use, the Commission would have been justified in designating this spectrum for wireless services in the absence any demonstration of need or

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13 V Band Order at ¶ 26.
14 HCI Reply Comments at 11.
15 V Band Order at ¶ 26.

desire for this spectrum by the terrestrial wireless industry. But the record, as supplemented by the filing of fifteen applications to provide satellite services at V Band, clearly demonstrates the satellite industry's need for more than 2 GHz of spectrum in each direction at V Band. While the Commission states simply that it considered these satellite applications in making its apportionment of spectrum,[16] the Commission makes no attempt to explain how the absence of a demonstration by the terrestrial wireless industry could be more persuasive to the Commission than the strong record evidence submitted by the satellite commenters, as buttressed by fifteen concrete satellite system proposals in the form of detailed system applications. The Commission's decision in this regard is contrary to the record and, therefore, irrational.

Thus, the Commission's unequal apportionment of V Band spectrum does not comport with the record, given the strong demonstration in the record by the satellite industry of the need for more than 4 GHz of V Band spectrum for satellite systems and the terrestrial industry's request for only 4.6 GHz instead of 5.6 GHz of spectrum for terrestrial wireless systems. The Commission has not sufficiently explained this disconnect between the record and the Commission's decision, as the Commission merely states without elaboration or explanation that the V Band spectrum designations provide "service providers the opportunity to meet their current and projected future needs."[17]

The Commission does list two, ultimately unpersuasive, factors in support of its unequal apportionment of V Band spectrum. First, the Commission indicates that in some sense 4 GHz of exclusive satellite spectrum -- that is, spectrum that is not shared with terrestrial wireless users -- is an improvement over the prior situation, in which satellite users were

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16 V Band Order at ¶ 28.
17 V Band Order at ¶ 28.

allocated more than 9 GHz of spectrum for use on a shared basis with terrestrial wireless users. While the statement is true enough given the oft-discussed problems associated FSS/FS sharing at V Band, the statement lends no support whatsoever to the unequal apportionment of spectrum for satellite use. That is, the Commission's statement would be equally true if the Commission had designated 5.6 GHz of spectrum for satellite use and 4 GHz of spectrum for terrestrial wireless use. Furthermore, the Commission's argument ignores the fact that band segmentation at V Band benefits terrestrial wireless providers as well as satellite service providers, as both types of services arguably will be able to deploy more efficiently. Thus, the statement that segmentation benefits the satellite industry provides no support for the Commission's designation of *unequal* amounts of satellite-only and terrestrial-only V Band spectrum.

Next, the Commission notes that while a greater amount of spectrum is designated to wireless services under the V Band Order, some of this wireless service spectrum may be auctioned for any allocated service, perhaps including satellite services.[18] In view of the infirmities in Commission's proposals with respect to the 47.2 - 48.2 GHz band (the "*47 GHz Band*"),[19] where the Commission purports to keep spectrum available for satellite use, there is no reason to believe here that satellite systems will have a realistic opportunity to utilize any portions of the V Band that the Commission has designated for wireless services. First, the Commission's plan to license the wireless service frequency bands by auction will significantly disadvantage international satellite systems. On several occasions, HCI and other satellite

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18 V Band Order at ¶ 28.

19 *See* Comments of Hughes Communications, Inc. at 3-5, Technical Appendix, WT Docket No. 98-136 (filed September 21, 1998); Reply Comments of Hughes Communications, Inc. at 2-5, WT Docket No. 98-136 (filed October 13, 1998).

interests[20] have explained why it is contrary to the public interest to license international satellite systems by competitive bidding. More importantly, as HCI indicated in its Comments and Reply Comments filed in response to the 47 GHz NPRM,[21] the Commission's proposed technical rules for the 47.2 - 48.2 GHz band allow for a significant potential of in-band interference between satellite and terrestrial licensees in a adjacent geographic license areas. This interference would prevent effective satellite use of the 47.2 - 48.2 GHz band. Thus, there is every reason to believe that any other sub-bands in the V Band that are similarly designated for flexible use will ultimately suffer the same from infirmities as those in the Commission's proposed plan for the 47.2 - 48.2 GHz band.

Thus, at bottom, the Commission has failed in its obligations under the APA to fully explain its apportionment of spectrum at V Band between the terrestrial wireless and satellite interests. This incomplete explanation is particularly troublesome in a case such as this where the record does not support the Commission's decision. The Commission's decision ignores the nearly unanimous position of the satellite industry that 2.0 GHz of spectrum in each direction is not sufficient, and that such a limited designation will have a profoundly negative effect on the development of satellite systems at V Band. Furthermore, the Commission's decision harms the satellite industry, while providing terrestrial wireless providers far more spectrum than any of them has expressed either a desire or a need for.

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20 *See, e.g., Public Harms Unique to Satellite Spectrum Auctions*, submitted by the Satellite Industry Association in IB Docket No. 95-91.

21 Comments of Hughes Communications, Inc. at 3-5, Technical Appendix, WT Docket No. 98-136 (filed September 21, 1998); Reply Comments of Hughes Communications, Inc. at 2-5, WT Docket No. 98-136 (filed October 13, 1998).

III. CONCLUSION

Thus, HCI requests that the Commission reconsider its apportionment of V Band spectrum and rebalance the amounts of spectrum designate for satellite and terrestrial wireless use. There are many potential alternatives for increasing the amount of spectrum designated for satellite use. One example would be to designate an additional one Gigahertz at 41.0 - 42.0 GHz for satellite downlinks and an additional one Gigahertz for satellite uplinks between either 45.5 - 46.7 GHz[22] or 50.4 - 51.4 GHz.

Respectfully submitted,

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[22] The Commission itself notes that the 45.5 - 47.0 GHz band contains an uplink allocation for MSS. V Band Order at ¶ 32, n.81.