spectrum, which is not yet a final order.[56] Obviously, the APA requires at least some discussion of the Commission's rationale for this action.

While the 18 GHz Order discusses the deletion of the GSO/FSS secondary designation in the 18.8 - 19.3 GHz band,[57] the Commission makes no attempt to explain the Commission's departure from the rationale for the secondary designations set forth in the 28 GHz Order. The Commission also ignores the results of WRC-2000, to which the Commission refers in another context in the 18 GHz Order,[58] that relate to GSO/NGSO sharing. More importantly, the Commission's actions in the 18 GHz Order leave the designations for Ka band FSS systems in confusion and disarray. The 18 GHz Order deletes the secondary designation in two of the three FSS downlink band segments (18.3 - 18.8 GHz and 18.8 - 19.3 GHz), but leaves the third FSS downlink band segment, 19.7 - 20.2 GHz, and the corresponding uplink band segments (28.35 - 28.6 GHz, 28.6 - 29.1 GHz, 29.25 - 29.5 GHz and 29.5-30.0 GHz) untouched and unmentioned. The Commission does not even try to explain why it would change the inter-satellite rules in the downlink band, but not even address the same rules in the uplink band. Simply put, this decision is not a rational, productive or transparent result.

Hughes does not necessarily disagree with the Commission that deleting the secondary satellite designations that were established in the 28 GHz Order in the satellite-primary bands ultimately may be sensible, but adopting this policy in a haphazard and piecemeal way without an adequate record makes no sense. The most appropriate way to deal with the issue of secondary satellite designations in satellite-primary bands at Ka band is to issue a

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56 *See Teledesic for Minor Modification of License*, 14 FCC Rcd. 2261 (1999). This license is still subject to one or more petitions for reconsideration.

57 18 GHz Order at ¶ 57.

58 18 GHz Order at ¶ 41.

Further Notice of Proposed Rule Making on the topic and to deal comprehensively in that proceeding with the issue for both the Ka band uplink and downlink bands, where, among other things, the results of WRC-2000 could be considered. In the meantime, however, the Commission's deletions of the secondary satellite designations are unexplained and irrational, do not comply with the APA and should, therefore, be rescinded.

IV. THE COMMISSION SHOULD PERMIT EITHER BLANKET LICENSING OR STREAMLINED REGISTRATION IN THE FULL 1000 MHZ ALLOCATED TO GSO/FSS AT KA BAND

The 18 GHz Order takes no action either (i) with respect to blanket licensing of GSO/FSS earth stations in the satellite-only band of 29.25 - 29.5 GHz or (ii) with respect to streamlined licensing or registration of earth stations that would only receive, and not transmit, in the 18.3 - 18.58 GHz band. The 18 GHz Order provides no rationale for the Commission's refusal to establish blanket licensing in the 29.25 - 29.5 GHz band and decides that action on the 18.3 - 18.58 GHz band should be delayed to an unspecified future proceeding.[59] The Commission should not delay action any longer on the 29.25 - 29.5 GHz band, and it should include Hughes's streamlined licensing proposal for the 18.3 - 18.58 GHz band in a prompt Further Notice of Proposed Rule Making in this proceeding, if the Commission does not accept Hughes's proposal to provide a full 1000 MHz for blanket licensed earth stations.

As discussed in Section IA above, the record in the 28 GHz proceeding is clear that the Commission and the parties in that proceeding intended that the shared use of the 29.25 - 29.5 GHz band between GSO/FSS and NGSO/MSS feeder links would not prevent deployment of ubiquitous GSO/FSS earth stations (the very types of terminals for which blanket licensing is critical and appropriate). Furthermore, the record on this issue in both the 28 GHz proceeding and in this proceeding is full and comprehensive. Hughes fully addressed this issue in its

Comments and Reply Comments and in a compendium *ex parte* filing that collected all of the relevant materials from both proceedings.[60] Hughes's showings on this issue are unrebutted in this proceeding. Thus, the record strongly supports permitting blanket licensing in the 29.25 - 29.5 GHz band and the Commission has no rational reason to delay decision on this point. The Commission should reconsider its decision and permit blanket licensing in the 29.25 - 29.5 GHz band, in accordance with the sharing principles agreed to with NGSO MSS proponents in 1996 and adopted by the full Commission in the 28 GHz Order.[61]

The Commission notes Hughes's proposal for streamlined licensing of earth stations in the bands shared on a co-primary basis by the GSO/FSS and the terrestrial fixed service, but concludes that the record is not sufficient to permit action on Hughes's proposal at this time.[62] The Commission indicates that it will address this proposal in some unspecified future proceeding. Hughes urges the Commission to address this proposal in a prompt Further Notice of Proposed Rule Making in this proceeding. A streamlined licensing or registration process, which differs from blanket licensing, is the only way that the Ka band GSO/FSS systems can make prompt and efficient use of the spectrum shared on a co-primary basis with the terrestrial fixed services. Significantly, a streamlined licensing approach facilitates the prompt and economical deployment of customer antennas, while still providing detailed information about the actual locations of those antennas, and will facilitate coordination with terrestrial

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59 18 GHz Order at ¶ 94.

60 Hughes Comments at 11-13, Technical Appendix A; Hughes Reply Comments at 23-24; Written *Ex Parte* Presentation of Hughes Network Systems filed in IB Docket 98-172 (May 19, 2000) (more than 1000 pages of record support provided to the Commission).

61 28 GHz Order at ¶¶ 72-73.

62 18 GHz Order at ¶ 94.

services. Therefore, it is critical that the Commission take prompt action to investigate such a process.

V. THE COMMISSION SHOULD RECONSIDER OR CORRECT SEVERAL TECHNICAL ASPECTS OF THE KA BAND BLANKET LICENSING RULES

A. The Amendment of the Spacecraft Downlink PFD Limit is Unexplained, Internally-Inconsistent and Contrary to the Record

The 18 GHz Order replaces current rule Section 25.208(c) with an amended Section 25.208(c) and adds new Sections 25.208(d), (e) and (f). Whereas the previous version of 25.208(c) governed spacecraft downlink power-flux density ("pfd") in the 17.7 - 19.7 GHz band, the amended Sections 25.208(c)-(f) inexplicably apply different pfd standards to the 18.3 - 18.8 GHz band than the 18.8 - 19.3 GHz and 19.3 - 19.7 GHz bands. The former version of 25.208(c) mirrors the current ITU Radio Regulations,[63] and, as discussed in detail above, the Commission adopted that version of 25.208(c) to govern the terms of spacecraft/terrestrial sharing in the 18 GHz band. Specifically with reference to GSO/FSS operations in 18.3 - 18.8 GHz, the Commission's new Section 25.208(d) applies a more stringent pfd limit at certain angles of arrival than the prior rule. The Commission makes no attempt to provide a rationale for this departure from the longstanding existing pfd limit. Nor does the Commission explain why there should be a different pfd limit for the GSO FSS at 18.3-18.8 GHz than for the NGSO/FSS at 18.8-19.3 GHz or for NGSO/MSS Feeder Links at 19.3-19.7 GHz. Moreover, the change to the limit at 18.3-18.8 GHz is contrary both to the Commission's new Ka band blanket licensing provision, Section 25.138, and to the record in this proceeding.

The 18 GHz Order does not explicitly provide a rationale for the Commission's amendments to Section 25.208(c). At most the Commission explains that it "adopt[s] the final

recommendations of the [Blanket Licensing Industry Working Group] as detailed in the [Commission's] revised Rules."[64] However, the Blanket Licensing Industry Working Group ("*BL-IWG*") specifically recommended that the Commission *not* adopt the NPRM proposal to amend Section 25.208(c) because such an amendment would be "inconsistent with the 'coordination threshold' approach to blanket licensing that the Industry Working Group has adopted."[65] Inexplicably, the Commission makes no attempt to address this recommendation by the BL-IWG or Hughes's Comments[66] to the same effect. This failure is a clear violation of the APA's requirement that the Commission address well-supported arguments that are contrary to the Commission's ultimate result.

New Section 25.208(d) is also fundamentally inconsistent with the underlying coordination threshold approach that is embodied in the Commission's Section 25.138(a) and (b). Indeed, the ability to coordinate inter-satellite operations at uplink and downlink power levels in excess of the thresholds set forth in Section 25.138(a) is fundamental to the approach taken by both the Commission[67] and the BL-IWG.[68] Section 25.138(b) clearly provides that the Commission could grant, upon a proper inter-satellite coordination showing, an application for a blanket earth station license that contemplates receiving downlink power from the satellite in excess of the -118 dBW/m^2/MHz threshold set forth in Section 25.138(a)(6). Yet, the Commission's new Section 25.208(d) would prohibit these coordinated higher-power operations

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63 *See* ITU Radio Regulations, Article S21, Section V, Table S21-4; *see also* 18 GHz Order at ¶ 90.

64 18 GHz Order at ¶ 92.

65 Second Report of the GSO FSS Ka-Band Blanket Licensing Industry Working Group at 2 ("*BL-IWG Second Report*").

66 Hughes Comments at 16-17.

67 *See* 18 GHz Order at Appendix A, Rule Section 25.138(b).

from many orbital positions over a range of angles of arrival. For example, while 25.138(b) would permit Hughes, upon coordination with adjacent satellite operators, to obtain a blanket earth station license to receive a higher power downlink service in the SPACEWAY beams that cover Alaska, Section 25.208(d) would prevent this coordinated service. This result is neither internally consistent nor rational.

Indeed, the result is all the more perplexing in view of the Commission's decision to designate a portion of the 18 GHz Band exclusively to GSO/FSS downlinks. As discussed above, the original purpose of 25.208(c) was to "pre-coordinate" spacecraft downlink transmissions in the 18 GHz band with the co-primary terrestrial fixed service users. Thus, the rational result of the Commission's satellite/terrestrial segmentation decision would be to remove the Section 25.208 pfd limit entirely from those bands designated for FSS exclusive use, as is currently the case for the FSS-exclusive 19.7 - 20.2 GHz band, and to retain the current pfd limit for those bands where satellite and terrestrial users retain their co-primary status. At the least, the APA requires that the Commission reinstate the prior 25.208(c) pfd limit, which is consistent with the ITU Radio Regulations, for the GSO/FSS band at 18.3 - 18.8 GHz.[69]

B. The Commission Should Correct Rule Section 25.138(a)(6) to Apply to All GSO/FSS Downlink Bands In Which the Commission Permits Blanket Licensing

The Commission makes clear in the text of the 18 GHz Order and in portions of its proposed rule Section 25.138, that the blanket licensing procedure for GSO/FSS earth stations applies to the 18.58-18.8 GHz band, in addition to the 19.7 - 20.2 GHz, 28.35 - 28.6 GHz, and

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68 BL-IWG Second Report at 2.

69 In the event that the Commission retains its new Section 25.208(d), the Commission should make clear that the new, more stringent pfd limit applies only to satellite

29.5 - 30.0 GHz bands.[70] However, the text of rule Section 25.138(a)(6), which lists the downlink power-flux density coordination threshold for routine processing of blanket license applications, omits the 18.58-18.8 GHz downlink band and lists only the 19.7 - 20.2 GHz downlink band. As discussed above, Hughes believes that the Commission should designate the entire 18.3 - 18.8 GHz band for satellite downlinks to ubiquitous, blanket-licensed earth terminals, but whatever the Commission's decision on the segmentation of, and blanket licensing in, the various portions 18 GHz Band, Section 25.138(a)(6) should apply to each GSO/FSS downlink band in which the Commission permits blanket earth station licensing. There is simply no rational reason for doing otherwise. To allow, as would the current text of Section 25.138(a)(6), routine processing of a blanket license application that contemplates a higher downlink power-flux density in the 18.58 - 18.8 GHz band, for example, than -118 dBW/m^2/MHz would disrupt the industry consensus reflected in the Second Report of the BL-IWG. Thus, the Commission should amend Section 25.138(a)(6) to reference each Ka band downlink band in which the Commission ultimately permits GSO/FSS blanket earth station licensing.

C. The Commission Should Correct the Text of Section 25.138(b) To Conform To Industry Consensus and the Record in This Proceeding

As noted above, the 18 GHz Order indicates that the Commission intended to adopt the recommendations of the BL-IWG on technical matters relating to blanket licensing of earth terminals. However, the text of Section 25.138(b) in the 18 GHz Order omits the word "blanket" before "earth station license" in the first sentence of that section, which is contrary to

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transmissions to the U.S. and does not displace the current ITU limits for coordination of international operations between spacecraft providing service outside the U.S.

70 18 GHz Order at ¶ 87; 18 GHz Order at Appendix A (listing 18.58 - 18.8 GHz in the heading of Section 25.138 and in subsection 25.138 (a)).

the proposal of the BL-IWG.[71] The Commission's omission, if it is intentional, is done without any explanatory rationale whatsoever, and without any support in the record of this proceeding.

The effect of the omission is that (although the heading of Section 25.138 clearly indicates that the Section applies to applications for blanket earth station licenses) Section 25.138(b), and therefore Section 25.138(c), possibly could be interpreted also to apply to applications for non-blanketed licensed earth terminals, such as individually-licensed and coordinated earth stations used for TT&C functions. The consequence of such an interpretation is that critical earth station facilities, such as TT&C stations, even after they are coordinated, could be subject to the requirement that they "power down" to accommodate new operations at any of the six orbital locations within six degrees. Such result obviously would be unacceptable.

The clear intention of the BL-IWG was that their proposed rules would "govern[] only the routine licensing of blanket-licensed earth terminals."[72] In Hughes's view, the reason that the BL-IWG intended its report to apply only to blanket-licensed earth terminals was that the technical discussions of the BL-IWG did not address the likely parameters of individually-licensed earth stations (*e.g.* TT&C), which would necessarily be individually coordinated with adjacent satellite operators in accordance with long-established precedent.[73] Thus, in accordance with the BL-IWG recommendations, and the APA, Commission should correct the text of

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71 *Compare* 18 GHz Order at Appendix A ("Each applicant for earth station license(s) that proposes . . .") *with* BL-IWG Second Report at 4 ("Each applicant for *blanket* earth station license(s) that proposes . . .") (emphasis added).

72 BL-IWG Second Report at 2.

73 For example, individually licensed Ku band earth stations are treated this way under Section 25.212, in contrast to the rules that apply to blanket licensed Ku band VSAT terminals under Section 25.134. While the BL-IWG developed a proposed rule that is a Ka band analog to Section 25.134, it did not address an analog to Section 25.212.

Section 25.138(b) to insert the word "blanket" before "earth station license" in the first sentence of that section.

VI. CONCLUSION

For all of the foregoing reasons, Hughes Electronics Corporation respectfully requests that the Commission reconsider the decisions in the 18 GHz Order discussed herein and take the actions on reconsideration proposed by this petition.

Respectfully submitted,

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