

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)		
)	File Nos.	SAT-LOA-20060908-00100
DIRECTV Enterprises, LLC)		SAT-AMD-20080114-00014
Application for Authorization to)		SAT-AMD-20080321-00077
Launch and Operate DIRECTV)		
RB-2, a Satellite in the 17/24 GHz)		
Broadcasting Satellite Service)		
at the 102.825° W.L. Orbital)	Call Sign	S2712
location)		
_____)		

**SPECTRUM FIVE LLC's REPLY IN SUPPORT OF
PETITION FOR RECONSIDERATION**

David Wilson
President
Spectrum Five LLC
1776 K Street, N.W., Suite 200
Washington, D.C. 20006
(202) 293-3483

Howard W. Waltzman
Adam C. Sloane
Mayer Brown LLP
1999 K Street, N.W.
Washington, D.C. 20006
(202) 263-3000

Counsel to Spectrum Five LLC

September 17, 2009

INTRODUCTION

A critical and indispensable element of the rules governing the Reverse Band is the power flux density (“PFD”) limit. It establishes the maximum power at which a satellite may operate without creating harmful interference to neighboring systems. If one satellite is permitted to exceed PFD limits, it unduly benefits by increasing its own capacity and reducing the effective capacity of affected systems, which diminishes service to competitors’ consumers.

The Bureau granted DIRECTV Enterprises, LLC (“DIRECTV”) authority to launch and operate a substantially over-powered space station. Fundamentally, as previously argued by Spectrum Five LLC (“Spectrum Five”), the Commission’s maximum PFD limits required DIRECTV to calculate the *minimum* possible atmospheric loss, so as to guarantee that, even when losses are slight, the signal at the earth’s surface will not be too strong. Instead, DIRECTV used link budget values at the point of signal failure, which calculate *maximum* possible atmospheric loss, so as to guarantee that, even in the face of high losses, the signal will remain available.¹ The result is that DIRECTV’s satellite signal will exceed the PFD limits in all but the most extreme weather conditions. Adoption of DIRECTV’s scheme would in effect eviscerate the power limits established by the Commission rules and enable any Reverse Band applicant to essentially unilaterally set its own power limits.

Despite DIRECTV’s protestations to the contrary, the Commission’s rule on this subject is clear: applicants must demonstrate compliance with the PFD limits “for all conditions, including clear sky” and adhere to quantifiable PFD limits.² It is indisputable what “all conditions, including clear sky” means: if any atmospheric conditions would leave DIRECTV’s

¹ See February 25, 2009 letter from Howard W. Waltzman, Counsel to Spectrum Five, LLC, to Marlene H. Dortch, Secretary, Federal Communications Commission, at 3.

² 47 C.F.R. § 25.208(w).

signal too strong, its proposed space station would violate the rule. By using link budget values to purportedly demonstrate compliance with Section 25.208(w)—as well as by including an adjustment for clouds—DIRECTV guaranteed that its proposed space station would routinely and substantially exceed the maximum PFD limits.

The opposition (“Opposition” or “Opp.”) of DIRECTV to Spectrum Five’s Petition for Reconsideration (“Petition” or “Pet. for Recon.”) makes no attempt to refute these scientific facts. Nor does DIRECTV justify the Bureau’s failure to address Spectrum Five’s arguments regarding the fundamental flaws in DIRECTV’s methodology. Instead DIRECTV asserts that the Bureau’s mistaken analysis results in only a “de minimis” violation of the PFD limits and is “harmless” error. As Spectrum Five shows below, this assertion is wrong.

As a result, the Bureau’s Order and Authorization of July 28, 2009 (“Order”) granting DIRECTV’s application must be rescinded, and DIRECTV’s application must be dismissed or, in the alternative, denied.

ARGUMENT

I. DIRECTV ACKNOWLEDGES THAT IT FAILED TO PROVIDE A CLEAR-SKY ANALYSIS

DIRECTV insists that it provided a clear-sky analysis, but admits that it inappropriately used clouds in its January 2008 amended application,³ a contradiction that is not reconcilable with the Commission’s rules.⁴ This admission is devastating. It means that DIRECTV’s January 2008 amended application did *not* provide a PFD analysis “for all conditions, including clear

³ Opp. at 4 (referring to *Application of DIRECTV Enters., LLC to Amend its Application for Authorization to Launch and Operate DIRECTV RB-2, a Satellite in the 17/24 GHz Broadcasting Satellite Service at 103 ° W.L.*, FCC File No. SAT-AMD-20080114-00014 (Jan. 14, 2008)).

⁴ The same inconsistency is set forth in Paragraph 14 of the Order, in which the Bureau states that “DIRECTV’s calculation assumed clear sky conditions and included an atmospheric attenuation factor of 1.1 dB that included clouds.” Order para. 14. A calculation that “included clouds” simply is not a calculation that “assumed clear sky conditions.”

sky,” as required by Section 25.208(w). Thus, its application was incomplete and defective, and should have been dismissed.

DIRECTV tries to evade this conclusion by characterizing its December 2008 filing,⁵ in which it admitted the inappropriateness of using clouds, as merely providing “additional information in support of its PFD showing,” rather than as attempting to amend its application.⁶ In one—trivial—sense, it is true that DIRECTV provided “additional information.” It conceded that it should *not* have included clouds in its analysis because a “clear sky” analysis cannot, by definition, include clouds. But to characterize the *elimination* of an erroneous factor as the mere provision of “additional information in support of its PFD showing” is an abuse of language.

DIRECTV now has the audacity to assert that it “has not proposed to change a single operational parameter on the space station described in its application – not power, antenna gain, or any other aspect that would affect the PFD experienced on the Earth’s surface.”⁷ Yet DIRECTV acknowledged in its December filing that, even by its own inaccurate calculations, by eliminating clouds, the input for atmospheric attenuation would be reduced from 1.1 dB to 0.74 dB, which clearly has an “affect [on] the PFD experienced on the Earth’s surface.”

The December filing was an attempted *amendment* to the application in a vain effort to provide the clear-sky analysis required by the Commission. As such an amendment, it was simply too late, for the reasons we explained in the Petition.⁸

⁵ See Dec. 8, 2008 letter from William M. Wiltshire, Counsel for DIRECTV Enterprises, LLC to Marlene H. Dortch, Secretary, FCC.

⁶ Opp. at 15; *see also see also id.* at 9 (describing its December submission as providing a “further discussion of its PFD calculation”).

⁷ *Id.* at 14.

⁸ See Pet. for Recon. at 19-23. DIRECTV also argues that, even if it had not provided the new analysis in the December 2008 filing, the Bureau could have “unilaterally conducted a somewhat

II. DIRECTV'S USE OF LINK BUDGET FIGURES WITH A 99.7% AVAILABILITY TO PURPORTEDLY DEMONSTRATE COMPLIANCE WITH THE COMMISSION'S PFD LIMITS WAS INDEFENSIBLE

DIRECTV also acknowledges that it used link-budget figures with a 99.7% availability in its "adjustment" for atmospheric attenuation.⁹ This, too, means that DIRECTV's application failed to provide a PFD analysis "for all conditions."

DIRECTV would have one believe that it is appropriate to use link budget calculations at the point of signal failure (*i.e.*, when heavy rain is present) to demonstrate compliance with Section 25.208(w)'s PFD limits for *all* conditions. Link budgets, however, establish a *floor* for signal strength: they show that under conditions involving greatest losses (highest atmospheric interference), the signal will be strong enough for adequate reception at the earth's surface. The maximum PFD limits in Section 25.208(w), by contrast, establish a *ceiling* on signal strength: these limits prohibit a space station from generating a signal that would exceed the PFD limits. Under Section 25.208(w), the maximum PFD limits must be met for all conditions, not just when the signal is at the point of failure.

DIRECTV's calculations reflect only a scenario at the point of signal failure, which occurs only a small percentage of the time. In fact, as DIRECTV acknowledges in its Opposition, the loss terms used in DIRECTV's link budget calculations would occur only 0.3% of the time, and thus greatly overstate the atmospheric loss values that could be expected to occur for substantial periods of time.¹⁰ It is simply wrong to assume that the highest loss

different analysis." However, the Bureau did not do a different analysis, so the point is utterly irrelevant here.

⁹ Opp. at 19.

¹⁰ For instance, DIRECTV uses a value of 0.3 dB for scintillation, a figure that assumes that atmospheric conditions are at the point where the link breaks (in this application, 0.3% of the time). However, if DIRECTV had assumed conditions that exist 50% of the time, the scintillation loss term would have been 0.0004 dB. ITU 618-9, Para.2.4.1, Equation (32).

conditions will occur all of the time. That is what an analysis “for all conditions” requires; there can be no contrary meaning to such an explicit requirement.¹¹

Because there can be no doubt about the import of the Commission’s rules in this context, and those rules “directly address the issue” presented here, the Commission is bound to follow the “clear meaning” of “its own regulations.”¹² Where a “rule’s meaning is clear on its face,” that meaning controls.¹³ The regulations cited here require DIRECTV to demonstrate compliance “for all conditions,” and, as numerous courts have stated, “‘all’ means all.”¹⁴ If any permitted atmospheric conditions would leave DIRECTV’s signal too strong for Section 25.208(w)’s limits, its proposed space station would violate the rule. DIRECTV’s amended application failed to demonstrate compliance under the meaning “compelled by the regulation’s

¹¹ DIRECTV attempts to defend its methodology by pointing out that the Commission’s rules do not prescribe a specific format for the PFD demonstration. Opp. at 7. As Spectrum Five showed in the Petition (Pet. at 13), Section 25.114(d) requires a demonstration that the proposed space station will comply with Section 25.208(w) or that affected parties have consented to a violation of the PFD limits. Thus, however formatted, DIRECTV was required to present a demonstration of compliance with applicable PFD limits “for all conditions, including clear sky,” which it plainly failed to provide. Moreover, the phrase “for all conditions, including clear sky” has been sufficiently clear to every other BSS applicant such that no other applicant (besides DIRECTV) has attempted to demonstrate compliance with Section 25.208(w) by inserting link budget figures for atmospheric attenuation factors. DIRECTV also trumpets the fact that its other applications have been granted, and that these also used link budget calculations. Far from justifying the Bureau’s decision here, this merely shows the pervasiveness and purposefulness of DIRECTV’s reliance on an inappropriate methodology.

¹² *In re Sealed Case*, 237 F.3d 657, 667 (D.C. Cir. 2001). See also *Exportal Ltda. v. United States*, 902 F.2d 45, 50 (D.C. Cir. 1990).

¹³ *Nat’l Family Planning & Reprod. Health Ass’n v. Sullivan*, 979 F.2d 227, 235 (D.C. Cir. 1992); accord *Exportal Ltda*, 902 F.2d at 50; *Pfizer, Inc. v. Heckler*, 735 F.2d 1502, 1509 (D.C. Cir. 1984).

¹⁴ *Sander v. Alexander Richardson Invs.*, 334 F.3d 712, 716 (8th Cir. 2003); see also, e.g., *Knott v. McDonald’s Corp.*, 147 F.3d 1065, 1067 (9th Cir. 1998); *Appalachian States Low-Level Radioactive Waste Comm’n v. O’Leary*, 93 F.3d 103, 109 n.6 (3d Cir. 1996).

plain language,”¹⁵ and DIRECTV does not even attempt to explain in the Opposition what is ambiguous about Section 25.208(w).

III. THE USE OF LINK-BUDGET FIGURES WILL RESULT IN DIRECTV'S LAUNCH AND OPERATION OF A SUBSTANTIALLY OVER-POWERED SATELLITE

DIRECTV also seeks to justify its reliance on an improper link budget methodology by asserting that its satellite will be only a little bit—0.44 dB—over the PFD limits.¹⁶ Spectrum Five is unaware of any *de minimis* exception to the PFD limits imposed by the Commission, or, for that matter, any such exception to the procedural requirements for a demonstration of compliance “for all conditions, including clear sky.” Be this as it may, 0.44 dB is approximately 11 percent over the Commission’s power limit. This is hardly minimal, and it reduces the channels adjacent satellites can provide, giving DIRECTV an unfair competitive advantage.

Even worse, if the Order is not rescinded, future applicants will use link budget losses to reduce their calculated PFD to establish their compliance with PFD limits, and there will be nothing to stop such applicants from specifying even higher availabilities than DIRECTV used in its link budget calculations in the instant proceeding.¹⁷ If other operators use a 99.9% availability in their link budget calculations (as DIRECTV has used in other BSS applications¹⁸), their satellites would be even more dramatically over-power than DIRECTV’s here. An operator whose PFD-compliant satellite is between two such over-powered satellites would find itself in a

¹⁵ *Gardebring v. Jenkins*, 485 U.S. 415, 430 (1988).

¹⁶ Opp. at 16.

¹⁷ Indeed, DIRECTV seems to think it should be praised for not using a *higher* availability than the 99.7% that it used. See Opp. at 19 (stating that “DIRECTV used a *lower* target availability (99.7%) than its standard for other BSS applications”).

¹⁸ *Id.*

capacity “vise,” being squeezed to death by adjacent over-powered satellites. As a result, the Commission’s entire regulatory scheme could be disrupted.¹⁹

IV. DIRECTV HAS FAILED TO REBUT SPECTRUM FIVE’S DEMONSTRATION THAT THE APPLICATION SHOULD HAVE BEEN DISMISSED.

DIRECTV asserts that, contrary to Spectrum Five’s arguments, DIRECTV’s application was substantially complete, arguing that “Spectrum Five cannot contend that DIRECTV (1) did not provide a PFD analysis; (2) did not disclose that atmospheric attenuation was part of the analysis, or (3) did not conclude based on that analysis that the proposed space station would comply with applicable PFD limits.”²⁰ This evasive argument, however, ignores the facts that (1) the PFD analysis that DIRECTV provided was patently erroneous (as DIRECTV itself conceded with regard to its inclusion of a clouds); (2) it took eleven months for DIRECTV to reveal that its amended application relied on grossly excessive attenuation values that did not comply with Section 25.208(w); and (3) DIRECTV’s conclusion that it complied was self-serving, wrong, and scientifically unjustifiable given its use of link budget figures at the point of signal failure in a purported demonstration of compliance with PFD limits “for all conditions, including clear sky.”

DIRECTV further asserts that its amended application “stated that its PFD showing included a 1.1 dB reduction based on atmospheric effects.”²¹ Such a statement does not make

¹⁹ DIRECTV also seeks to minimize the implications of its excessively powered satellite by pointing to a larger disparity between a satellite for which Spectrum Five has an application and Pegasus’s satellite for the 115° W.L. orbital location. Opp. at 19-21. This argument is frivolous since both Spectrum Five and Pegasus would be operating at power levels that are within the rules. DIRECTV’s satellite will not. Moreover, Pegasus chose to operate at power levels *below* applicable limits, but has anticipated an adjacent satellite operating at maximum power in its link budget analysis.

²⁰ Opp. at 11.

²¹ *Id.* at 12.

the application “substantially complete” within the meaning of the regulations, because that showing—as DIRECTV later admitted with regard to clouds and Spectrum Five later demonstrated with regard to the link budget calculations—did not exhibit compliance “for all conditions, including clear sky.”

DIRECTV also argues that the proper remedy is for the Bureau to condition approval on the Bureau’s resolution of the dispute. DIRECTV accuses Spectrum Five of failing to explain why the Bureau’s recalculation in the approval of Intelsat’s application involved minor technical matters, distinguishable from DIRECTV’s errors. The answer is simple: the Bureau itself characterized the Intelsat matter as requiring only “a slight change . . . in Intelsat’s methodology.” In addition, the Intelsat satellite is under the PFD limit.

Here, DIRECTV’s methodological errors are fundamental and involve the use of an utterly indefensible methodology to purportedly achieve the requisite PFD levels “for all conditions, including clear sky.” DIRECTV has professed to determine maximum PFD values by using a method that was devised to estimate worst-case impairments to space-to-earth propagation links. Thus, DIRECTV failed to make the requisite PFD showing, whereas, by DIRECTV’s own admission, Intelsat made such a showing.²² Moreover, the correction to Intelsat’s PFD values by the Bureau was only 0.01 dB, or approximately 0.05%, and Intelsat’s PFD limits were well below the PFD maximum imposed by the Commission’s rules, in contrast to DIRECTV’s PFD values, which are approximately eleven percent over the limit.

Even worse, DIRECTV does not address Spectrum Five’s argument that Commission regulations and the Reconsideration Order, taken together, provide a formal (and the only) process for amending BSS applications and mandate the dismissal of defective applications. See

²² *Id.* at 17.

Pet. for Recon. at 16-23. The Bureau's failure to explain its departure from these rules was arbitrary and capricious. "[T]he requirement that an agency provide a reasoned explanation for its action would ordinarily demand that it display awareness that it *is* changing its position. An agency may not, for example, depart from a prior policy *sub silentio* or simply disregard rules that are still on the books."²³ Here, the Bureau "simply disregard[ed]" the Commission's rules, running afoul of the requirement that an agency adhere to its established positions or provide a reasonable explanation for a change in position.²⁴ Because of the Bureau's failure to provide an explanation for its change of position on dismissals and amendments of defective applications, the Order should be rescinded.

V. **DIRECTV FAILED TO EXPLAIN AWAY THE BUREAU'S RELIANCE ON AN INCORRECT PFD LIMIT IN ITS ANALYSIS OF DIRECTV'S CALCULATION**

As Spectrum Five demonstrated, the Bureau appears to have been operating under the assumption that a -115.0 dBW/m²/MHz limit was applicable to DIRECTV's off-grid satellite. DIRECTV argues that the error in this regard had no effect on the Bureau's conclusions because the Bureau relied on this limit only in the context of its extreme clear sky calculation, which was undertaken *after* it had concluded that DIRECTV had satisfied the Commission's PFD limits.²⁵

The Bureau, however, also referred to the -115.0 dBW/m²/MHz limit earlier in the same paragraph, *before* reaching the initial tentative conclusion that DIRECTV had demonstrated compliance.²⁶ Moreover, if the Bureau had not applied the wrong PFD limit when it did its

²³ *FCC v. Fox Television Stations, Inc.*, 129 S. Ct. 1800, 1811 (2009).

²⁴ *See, e.g., Motor Vehicle Mfrs. Ass'n of the U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 57 (1983); *Nat'l Cable & Telecomm. v. FCC*, 567 F.3d 659, 667 (D.C. Cir. 2009); *DIRECTV, Inc. v. FCC*, 110 F.3d 816, 826 (D.C. Cir. 1997); *Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 852 (D.C. Cir. 1970).

²⁵ *See* Opp. at 9-10.

²⁶ *See* Order ¶ 18 (fourth sentence).

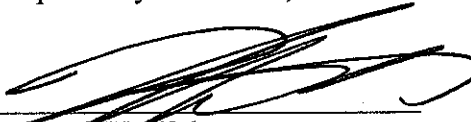
extreme clear sky calculation, and had, therefore, concluded that the extreme clear sky calculation resulted in a finding that DIRECTV's space station would be over-powered under such conditions, the Bureau would have been obligated to take a closer look at the situation and actually addressed Spectrum Five's argument about DIRECTV's indefensible use of link budget levels in a PFD analysis. When considered in this context, and given DIRECTV's own admission that the Bureau applied the incorrect power level to its analysis, the Bureau's error in failing to fully consider Spectrum Five's arguments regarding DIRECTV's illicit use of link budget levels to demonstrate compliance "for all conditions, including clear sky" cannot be justified, and the Order must be rescinded.²⁷

CONCLUSION AND RELIEF REQUESTED

For the foregoing reasons, the Bureau should rescind the Order, dismiss or deny DIRECTV's application, and consider Spectrum Five's application, which is next in the application queue.

David Wilson
President
Spectrum Five LLC
1776 K Street, N.W., Suite 200
Washington, D.C. 20006
(202) 293-3483

Respectfully submitted,


Howard W. Waltzman
Adam C. Sloane
Mayer Brown LLP
1999 K Street, N.W.
Washington, D.C. 20006
(202) 263-3000
Counsel to Spectrum Five, LLC

²⁷ It bears noting that DIRECTV has utterly failed to address Spectrum Five's argument that the Bureau's refusal to address Spectrum Five's criticisms of the use of the link budget calculation was itself arbitrary and capricious.

CERTIFICATE OF SERVICE

I, Howard W. Waltzman, hereby certify that on this 17th day of September, 2009, I caused to be delivered a true copy of the foregoing by first-class United States mail, postage prepaid, upon the following:

William M. Wiltshire
Wiltshire & Grannis LLP
1200 18th Street, N.W.
Washington, D.C. 20036
Counsel for DIRECTV Enterprises LLC

A handwritten signature in black ink, appearing to read 'Howard W. Waltzman', with several overlapping loops and a long horizontal stroke extending to the right.

Howard W. Waltzman