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Sent: Monday, January 30, 2006 10:34 PM
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Subject: Reply Comments of EchoStar - SAT-MOD-20051221-00267

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Federal Communications Commission
Office of the Secretary

Please find attached a copy of the Reply Comments of EchoStar Satellite Operating Company filed in response to comments filed by DIRECTV Enterprises, LLC in the above referenced matter.

Please let us know if you have any problems with the attachment.

<<Reply Comments.pdf>>

Best regards,

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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JAN 30 2006

Federal Communications Commission
Office of the Secretary

Application of)

EchoStar Satellite Operating Company)

For Modification of Authorization to)
Operate a DBS Satellite at 110° W.L.)

File No. SAT-MOD-20051221-00267

REPLY COMMENTS OF
ECHOSTAR SATELLITE OPERATING COMPANY

EchoStar Satellite Operating Company ("EchoStar") hereby responds to comments filed by DIRECTV Enterprises, LLC ("DIRECTV") in opposition to the above referenced application.¹ The public interest is best served by authorizing full operation of EchoStar 10. Such a grant will enable EchoStar to begin operation and provide important services to consumers as soon as practicable. Among other things, approval to operate EchoStar 10 at the 110° W.L. orbital location is important to EchoStar's compliance with the March 8, 2006, customer notification requirements set forth in the Satellite Home Viewer Extension and Reauthorization Act ("SHVERA").² Conversely, failure to grant the requested authorization would impact a number of markets that EchoStar will be transitioning from two dishes to one dish pursuant to the SHVERA mandate.³

¹ Comments of DIRECTV Enterprise, LLC, filed in SAT-MOD-20051221-00267 (filed Jan. 20, 2006).

² Codified at 47 U.S.C. § 338(g)(4).

³ 47 U.S.C. § 338(g)(1).

With respect to the unique circumstances surrounding DIRECTV's three licensed channels that are "interleaved" with three of EchoStar's 29 frequencies at 110° W.L., the Commission should allow EchoStar to operate on channels 27, 29 and 31 subject to coordination between the two providers,⁴ but should provide guidance regarding the appropriate standard for assessing harmful interference, should the two companies be unable to reach agreement by February 3, 2006.

EchoStar is confident that no harmful interference will be caused by the "interleaved" three channels, because DIRECTV already tolerates comparable effects from its own current authorized operations. Indeed, EchoStar 10 will allow DIRECTV to maintain service levels for its three channels at 110° W.L. comparable to those that DIRECTV itself has proposed for its DIRECTV-13 satellite. As satellite systems become more complex and the Commission promotes more efficient use of the spectrum, satellite providers must continually re-evaluate the criterion they use in assessing interference.

EchoStar reserves the right to supplement this response with additional technical detail depending on the progress of discussions with DIRECTV.

ANALYSIS

On December 21, 2005, EchoStar filed an application to modify its authorization to operate a satellite at 110° W.L. and to launch and operate a new satellite, EchoStar 10, at that orbital location.⁵ The EchoStar 10 satellite represents a substantial improvement in frequency reuse

⁴ If an agreement requires an adjustment to the power levels deployed on the three channels in question, EchoStar can make such adjustments while EchoStar 10 is in orbit.

⁵ File No. SAT-MOD-20051221-00267.

technology that will allow EchoStar to provide advanced services to its subscribers, including high definition to subscribers in some markets.⁶

In its comments challenging EchoStar's application, DIRECTV states its DIRECTV 5 satellite, operating at 109.8° W.L., will experience serious interference from EchoStar 10 if it is authorized to operate at 110° W.L.⁷ DIRECTV states that its interference analysis demonstrates that "its customers in many areas of the country will receive unacceptable interference."⁸ DIRECTV provides little more to establish this assertion or to demonstrate that its concern is real. The vague nature of its arguments leads one to believe that these comments are intended only as a "place holder" rather than an expression of genuine concern.

To assess these vague concerns, it is important to survey the landscape of the DBS industry, as well as the changes that have been experienced over the last 10 years of DBS operations. The DBS providers are now operating almost exclusively in an "interference" limited environment whereas at the start (and before the advent of spot beam satellites), they were operating exclusively in a "power" limited environment. The EIRP levels used on spot beams will probably not increase further beyond current levels (including EchoStar 10) due to the fact that the co-frequency beams are about as close to each other as they can get for interference purposes. However, CONUS EIRP levels

⁶ *See Id.* In this application, EchoStar explained that launch and operation of EchoStar 10 at 110° W.L. will have significant public interest benefits including: improved spectrum efficiency; additional and improved programming and services, including more local-into-local services, High Definition programming and international services; and more meaningful competition in the multichannel video distribution market. Further, together with the operation of EchoStar 5 at 129° W.L. and other measures, the operation of EchoStar 10 at 110° W.L. is a critical component of EchoStar's ability to comply with the "single dish" requirement introduced by Section 203 of the SHVERA. *Codified at 47 U.S.C. § 338(g).*

⁷ Comments of DIRECTV Enterprise, LLC, *filed in SAT-MOD-20051221-00267*, at 1 (filed Jan. 20, 2006).

⁸ *Id.*

have been and are likely to continue to increase in coming years such that the differential between the EIRP of spot beams versus CONUS beams will further decrease. Historically, CONUS beams used 120 watt amplifiers that produce CONUS beam EIRP peaks on the order of 53 dBW EIRP. The most recent offerings (now deployed on DIRECTV satellites and soon to be deployed by EchoStar too) are based on 450 watt amplifiers with CONUS EIRP peaks of approximately 58 to 59 dBW. DIRECTV has now proposed 600 watt amplifiers for its DIRECTV-13 satellite with CONUS EIRP peaks of approximately 61 dBW (albeit across wider bandwidth). The stark bottom line is that there has been a steady progression of higher and higher CONUS powers that continue to reduce the differential between spot beams and CONUS beams, and therefore the interference caused by spot beams into CONUS beams, as referred to by DIRECTV.

Against this backdrop, and setting aside the near-complete lack of specificity in DIRECTV's comments, the fact is that the EchoStar 10 satellite will not cause harmful interference to the DIRECTV 5 satellite or any other authorized user of the spectrum. Indeed, the satellite will have an effect on DIRECTV's operations that is comparable to: (1) the effect that the DIRECTV's 4S and 7S satellites have on DIRECTV's own operations at 101° W.L. and 119° W.L.; (2) the C/I levels that DIRECTV has determined it can accept for its proposed DIRECTV-13 satellite at 110° W.L.; and (3) levels that EchoStar has been operating with over the last 3-4 years on EchoStar 7 and EchoStar 8 with no perceived negative impact on performance. At a meeting convened by the commission on January 27, DIRECTV representatives did not deny that these effects are comparable; they argued, however, that the effect that each DBS provider chooses to live within for its own operations is irrelevant. The problem with that argument is that there is no other appropriate standard to assess the "interference" to be caused by EchoStar 10. This is because there is no rule that determines acceptable cross polarization C/I levels. Nor is there any factual situation that can provide a directly applicable

yardstick. This is because DIRECTV's concerns arise from a unique situation: DIRECTV's three licensed channels are "interleaved" with three of EchoStar's 29 frequencies at 110° W.L. Therefore, cross-polar interference between essentially collocated satellites, which would normally be considered "intra-system interference," actually occurs as "inter-system interference" between EchoStar and DIRECTV. There is no similar DBS sharing situation. DIRECTV has all of 101° W.L., and EchoStar and DIRECTV have sequential channel assignments at 119° W.L. In the absence of any rule of directly applicable comparison, one appropriate criterion is what the provider expressing interference concerns has decided it can tolerate in terms of intra-system interference in its own operations.

This criterion is instructive. It shows that the effect of EchoStar 10's operations in channels 27, 29, and 31 on the DIRECTV satellite's three channels -- 28, 30, and 32 -- will not constitute harmful interference. Indeed, as mentioned above, resulting cross polarization C/I levels from EchoStar-10 into the DIRECTV 5 satellite operating at 109.8° W.L. are comparable to the C/I levels that DIRECTV already accepts into its CONUS service at the 101° W.L. and 119° W.L. orbital locations due to its own collocated spot beam satellites at those locations. Finally and equally important, the C/I levels of which DIRECTV complains are comparable to the C/I levels that DIRECTV itself has proposed (and therefore can live with) for the DIRECTV-13 satellite.

As DIRECTV has correctly observed, DIRECTV and EchoStar have commenced coordination discussions, and EchoStar remains hopeful that the two can reach agreement. Nevertheless, if agreement has not been reached by Friday February 3, 2006 (the date on which the two companies have committed to provide an update to the Commission), it would be useful for the Commission to provide guidance regarding the appropriate standard.

EchoStar notes, moreover, that DIRECTV's concerns are limited to only three DBS channels at 110° W.L. -- 27, 29, and 31 -- which are adjacent to DIRECTV's three licensed channels --

28, 30, and 32 -- at the same orbital location. DIRECTV's concerns, therefore, do not relate to the requested operation of the EchoStar 10 satellite on the remaining channels licensed to EchoStar at 110° W.L.⁹

CONCLUSION

The Commission should authorize full operation for EchoStar 10 on the requested channels licensed to EchoStar at the 110° W.L. orbital location. While EchoStar accepts a coordination condition for the three channels that overlap those licensed to DIRECTV, the Commission should provide guidance about the appropriate standard if the two operators have not reached agreement by February 3, 2006. The Commission should also promptly grant EchoStar's previously filed request for temporary authorization for the launch and testing of EchoStar 10 at 138.5° W.L.,¹⁰ since such temporary operations likewise will not affect DIRECTV and do not implicate any of DIRECTV's interference concerns.

Respectfully submitted,

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January 30, 2006

⁹ EchoStar has already agreed to accommodate a separate residual concern expressed by DIRECTV regarding these remaining frequencies (without agreeing that this concern was legitimate).

¹⁰ File Nos. SAT-STA-20051130-00257, SAT-STA-20060104-00002. As EchoStar has apprised the Commission, launch is currently set for Wednesday February 8, 2006.

**CERTIFICATION OF PERSON RESPONSIBLE FOR PREPARING
ENGINEERING INFORMATION**

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

_____/s/____

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January 30, 2006

