

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

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Federal Communications Commission
Office of 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

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RESPONSE OF DIRECTV ENTERPRISES, LLC

In this proceeding, EchoStar Satellite Operating Company (“EchoStar”) seeks authority to operate a satellite that will cause significant harmful interference to the signal received by viewers across the United States from the DIRECTV 5 satellite located at the same orbital position. EchoStar undoubtedly finalized the design of the EchoStar 10 satellite at least a year ago, and in the interim could have anticipated these issues and worked with DIRECTV to solve them. Unfortunately, EchoStar appears to have gone out of its way to avoid these issues, and even today seeks to deny them. Although there is now less than a week until EchoStar’s satellite is scheduled for launch, these interference issues remain unresolved – a situation entirely of EchoStar’s making.

For example, the extent of cross-polar interference was not immediately apparent from EchoStar’s application. In fact, as discussed below, the application incorrectly indicates that such interference would be fairly tolerable, leaving DIRECTV 5 with a C/I in excess of 23.3 dB. It was not until DIRECTV Enterprises, LLC (“DIRECTV”)

discovered the true extent of the cross-polar interference and raised the issue in mid-January that EchoStar in any way acknowledged it.

In its Reply to DIRECTV's initial Comments,¹ EchoStar now attempts to justify the actual interference it would unilaterally impose on DIRECTV's viewers by suggesting an interference standard that ignores the way operators deal with inter-system interference in the real world. EchoStar also seeks to paint EchoStar 10 as crucial to meeting SHVERA's "no two-dish" mandate, when in fact EchoStar has many options available to achieve compliance, as DIRECTV has done with fewer DBS assets. The Commission should give short shrift to these arguments, and withhold a grant in this proceeding until EchoStar has agreed to modify its operations to ensure that viewers of DIRECTV 5 continue to enjoy signal protection comparable to the current level.

* * *

At the outset, DIRECTV feels compelled to correct one of the more egregiously misleading aspects of EchoStar's Reply. On several occasions, EchoStar avers that DIRECTV has raised only vague and non-specific issues with respect to the proposed EchoStar 10 satellite, going so far as to assert that DIRECTV's comments were "intended only as 'place holder' rather than an expression of genuine concern."² This is completely untrue. In its Comments, DIRECTV provided the range of cross-polar interference and C/I values resulting from its analysis of EchoStar's 10's impact on DIRECTV 5.³ In addition, DIRECTV provided EchoStar and the International Bureau staff additional

¹ Reply Comments of EchoStar Satellite Operating Company (dated Jan. 31, 2006) ("Echo Reply").

² See Echo Reply at 3.

³ See Comments of DIRECTV Enterprises, LLC at 2 (dated Jan. 20, 2006).

information, including the exact beams and C/I values at issue, at a January 27 meeting to discuss possible coordination of the satellites. By contrast, EchoStar did not provide any specific analysis at that meeting. In these circumstances, it borders on bad faith for EchoStar to characterize DIRECTV's position as unsubstantiated or to accuse DIRECTV of regulatory gamesmanship.⁴

Again, it was EchoStar – not DIRECTV – that chose to submit this application less than two months prior to scheduled launch of the satellite. Given the apparent importance of EchoStar 10 to the company's business plan, one would have expected EchoStar to make every effort to work through all technical issues with other potentially affected parties well in advance and seek a license with sufficient time to resolve any issues that might arise. Instead, whether for strategic reasons or otherwise, EchoStar remained silent during the many months the satellite was under construction and sought a license only at the last minute. Unlike EchoStar – which either did not recognize the magnitude of the cross-polar interference problem it was creating or was hoping no one else would notice – DIRECTV immediately contacted EchoStar as soon as it had an opportunity to analyze the technical data supplied with the application, and provided the specific analysis underlying its concerns.

It is also worth noting that this important issue might not have come to light had DIRECTV taken EchoStar's application at face value. Specifically, in support of a requested waiver to accommodate a 1.7 dB shortfall in the required cross-polar isolation

⁴ Try as it might, EchoStar will have a difficult time painting DIRECTV as obstructionist in this case. In addition to finding the cross-polar interference problem and initiating a dialog with EchoStar well before the comment deadline, DIRECTV also noted that the EchoStar 10 design for some reason uses the same telemetry frequency as DIRECTV 5, even though that frequency has been known for years. After bringing this problem to EchoStar's attention, DIRECTV unilaterally offered to operate with the DIRECTV 5 telemetry transmitter off, leaving this satellite in a higher risk, non-redundant state without any offsetting benefit to DIRECTV, and without involving the Commission.

of its satellite antenna, EchoStar includes a discussion of the impact of this shortfall on the interleaved channels at 110° W.L. used by DIRECTV 5. The application concludes as follows:

The 1.7 dB shortfall in the cross-polar isolation of the ECHOSTAR-10 transmit antennas will therefore result in a 0.47 dB reduction in the cross-polar interference received by DIRECTV, **and still give a C/I level in excess of 23.3 dB.**⁵

As stated in DIRECTV's Comments and reflected in Exhibit 1 attached hereto, EchoStar 10's proposed operation would reduce the actual C/I levels experienced by DIRECTV 5 to the range of about 12 dB to 19 dB, causing as much as **ten times more interference** than EchoStar asserted in its application.⁶ Indeed, were the C/I levels actually as EchoStar asserted, there would be little to discuss, as cross-polar interference would be more comparable to the current interference environment.⁷

Forced to look for after-the-fact justifications, EchoStar now attempts to argue that it has created no problem at all, relying upon a false paradigm that compares levels of *intra*-system interference accepted by DIRECTV and EchoStar from their own satellites with the levels of *inter*-system interference EchoStar seeks to impose

⁵ See Technical Information to Supplement Schedule S, included as Attachment A to the EchoStar 10 Application, at p. 14 (emphasis added).

⁶ EchoStar failed to take into account the large EIRP disparity between the operational levels requested for EchoStar 10 and the levels actually provided by DIRECTV 5 – as much as 10 dB less in many cases – which decreased the C/I values in many areas to levels that are insufficient to provide adequate protection. In this regard, it is worth noting that – although EchoStar asserts to the contrary (Echo Reply at 5) – the operators have overlapping channels at 119° W.L. However, there is no similar cross-polarization issue because the satellites operate at comparable power levels. It is EchoStar's unilateral decision to dramatically increase power on EchoStar 10 that has caused the problem here.

⁷ For example, in its recent application to license DIRECTV 5 at 110° W.L., DIRECTV assumed a cross-polar interference level of 22.9 dB. See Application in FCC File No. SAT-A/O-20050504-00093 (filed May 4, 2005). Although that application was processed at a time when EchoStar 10's design was presumably set and construction was nearing completion, EchoStar did not comment or in any other way indicate that it planned to radically alter the cross-polar environment.

unilaterally upon DIRECTV here.⁸ As DIRECTV has explained to EchoStar before, intra-system interference levels are irrelevant to this proceeding. Both DIRECTV and EchoStar have chosen to operate at certain levels of intra-system interference because they have determined that these levels optimize the overall performance of *their own* system. For example, EchoStar or DIRECTV might be willing to tolerate self-interference in one aspect of its operations if doing so will create a more than offsetting increase in overall system capacity. In such a case, the operator makes a business decision to trade off some compromises in one area for the greater good of the system.

Here, by contrast, EchoStar proposes to increase interference *to DIRECTV*, and asks *DIRECTV* to make the required adjustments. The equation works in only one direction: EchoStar alone will reap the benefits of its higher operating power levels, while DIRECTV alone will experience the detrimental impact of the resulting interference. Accordingly, the considerations and equities are entirely different.

Moreover, with respect to intra-system interference, if business imperatives change or the anticipated performance trade-offs do not materialize, an operator has the ability to rebalance system power. Not so with respect to inter-system interference – the operator would have to continue to live with whatever handicaps are imposed by operation of a satellite solely within the control of another operator. Thus, the comparison EchoStar seeks to make is entirely inappropriate.

Further seeking to deny the problem, EchoStar also asserts that there is no standard against which to evaluate the level of interference that EchoStar 10 would cause

⁸ See Echo Reply at 4.

to DIRECTV 5.⁹ That assertion flatly ignores the consistent course of dealing between the two parties and is belied by EchoStar's own application. As the comparison of current and projected C/I levels in Exhibit 1 clearly shows, DIRECTV 5 achieves typical C/I levels in excess of 20 dB under the current inter-system interference environment – a level that is common throughout the U.S. DBS orbital arc. And as discussed above, EchoStar asserted in its application that DIRECTV 5 would achieve at least 23.3 dB C/I even with EchoStar 10 in operation, which would also have been consistent with the current interference environment.

Finally, the one example of inter-system interference cited by EchoStar is as misleading in what it does say as it is illuminating in what it does not say. Specifically, EchoStar cites the peak EIRP levels of approximately 61 dBW in the recent proposal for a new DIRECTV 13 satellite at 110° W.L. as evidence of the continuing trend in the industry toward higher power levels that could eventually ameliorate the problem discussed herein.¹⁰ Even if this were true, it would be cold comfort to viewers of DIRECTV 5, which still has many years of useful life at its current power levels. Moreover, it is not true – at least not as EchoStar describes it. EchoStar fails to mention (except obliquely in a parenthetical) that DIRECTV 13's peak power is only used when spread across a channel bandwidth that is more than three times the normal DBS 24 MHz channel. When converted to an EIRP over 24 MHz to allow a more apt comparison, the level falls to 55.7 dBW – *i.e.*, less than the level of existing DBS satellites cited by

⁹ See Echo Reply at 4.

¹⁰ See *id.*

EchoStar.¹¹ Unlike EchoStar, DIRECTV carefully engineered its proposed satellite to preserve the inter-system environment and appropriately protect EchoStar's existing operations, choosing to observe certain operational limitations in its design rather than unilaterally impose significant interference upon co-located satellites of another operator. DIRECTV asks only that EchoStar now do the same.

EchoStar also argues that, because DIRECTV proposes to operate DIRECTV 13 with C/I levels comparable to those EchoStar 10 would impose upon DIRECTV 5, there is no basis for concern.¹² Again, the Commission should not be thrown off by this apples-to-oranges comparison. To begin with, DIRECTV designed this satellite to operate within the confines of the existing interference environment – *i.e.*, to minimize its impact on EchoStar and others. It strikes DIRECTV as perverse that its reward for having done so should be to have EchoStar claim that all of DIRECTV's *existing* satellites must henceforth accept similar C/I levels regardless of the consequences.

Moreover, the fact that DIRECTV's thoughtful design yields an apparently lower C/I for DIRECTV 13 should not be deemed indicative of the C/I levels DIRECTV believes necessary for its core service. DIRECTV does not intend to use DIRECTV 13 for "traditional" DBS service. It instead proposes an entirely new service from DIRECTV 13, using much smaller antennas mounted on mobile platforms. In light of the lower C/I levels, DIRECTV proposes to use a much lower code rate to close the links to these antennas.¹³ Were DIRECTV forced to implement a similar strategy for DIRECTV

¹¹ *See id.* (most recent satellites have CONUS EIRP peaks of approximately 58 to 59 dBW).

¹² *See id.* at 5.

¹³ The DIRECTV 13 application indicates a code rate of QPSK 1/2, as compared to a code rate of QPSK 6/7 used for DIRECTV 5.

5 in order to accommodate EchoStar 10, it would significantly reduce the satellite's throughput capabilities and thus decrease the amount of programming it can provide from that satellite. For these reasons, the comparison EchoStar seeks to make is completely illegitimate.

Moreover, the C/I value anticipated for DIRECTV 13 was based on the assumption that cross-polar interference levels in the future would approximate current conditions. If instead the levels are reduced to as little as 12 dB due to EchoStar 10's operations, the C/I levels available from DIRECTV 13 would also be dramatically reduced – perhaps to the point where the service would not be viable. In other words, an entire new line of DBS service could be compromised to satisfy EchoStar's unilateral desire for higher operating power. EchoStar conveniently overlooks this fact in its Reply.

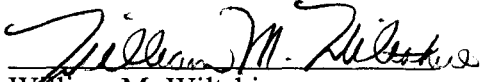
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DIRECTV can certainly appreciate the importance of a new satellite to any DBS operator, and it does not begrudge EchoStar the opportunity to deploy more advanced technology to serve its subscribers. However, EchoStar has many options available to meet SHVERA's "no two-dish" mandate, as DIRECTV has done with fewer DBS orbital and spectrum assets. Moreover, no matter how important a satellite may be to EchoStar's business plan, EchoStar has no right to compromise the viewing experience enjoyed by DIRECTV subscribers across the country. DIRECTV seeks only protection to the level of inter-system interference that is the current industry norm – ***and consistent with the 23.3 dB cross-polar levels EchoStar itself indicated in its application.*** Moreover, DIRECTV's concern relates to only three of the twenty-nine DBS channels used by EchoStar 10, meaning that any accommodation required to protect DIRECTV 5 would

have no effect on 90% of EchoStar 10's frequencies. In these circumstances, there is absolutely no justification for the unilateral imposition of the level of cross-polar interference that EchoStar proposes, and the Commission should not grant this application until DIRECTV's legitimate concerns have been addressed.

Respectfully submitted,

DIRECTV ENTERPRISES, LLC

By: 
William M. Wiltshire
Michael D. Nilsson

HARRIS, WILTSHIRE & GRANNIS LLP
1200 Eighteenth Street, N.W.
Washington, DC 20036
202-730-1300

Counsel for DIRECTV Enterprises, LLC

Dated: February 3, 2006

EXHIBIT 1

| E10 Beam | Echo Stated x-pol into D5, dB | Actual E10 x-pol into D5, dB | Current E8 x-pol into D5, dB |
|----------|-------------------------------|------------------------------|------------------------------|
| T01 | 23.3 | 16.8 | 21.6 |
| T02 | 23.3 | 16.1 | 21.5 |
| T05 | 23.3 | 17.4 | 24.2 |
| T09 | 23.3 | 15.2 | 21.1 |
| T10 | 23.3 | 16.7 | 23.0 |
| T11 | 23.3 | 14.9 | 20.3 |
| T15 | 23.3 | 15.7 | 22.1 |
| T17 | 23.3 | 15.4 | 22.6 |
| T19 | 23.3 | 14.8 | 20.1 |
| T21 | 23.3 | 13.4 | 19.4 |
| T24 | 23.3 | 17.0 | 23.7 |
| T26 | 23.3 | 16.5 | 24.9 |
| T29 | 23.3 | 13.3 | 21.7 |
| T31 | 23.3 | 13.0 | 20.9 |
| T37 | 23.3 | 12.1 | 21.8 |
| T39 | 23.3 | 13.6 | 20.6 |
| T43 | 23.3 | 19.7 | 25.1 |
| T44 | 23.3 | 16.1 | 22.1 |
| T46 | 23.3 | 11.9 | 29.5 |
| T47 | 23.3 | 19.1 | 28.1 |

ENGINEERING CERTIFICATION

The undersigned hereby certifies to the Federal Communications Commission as follows:

- (i) I am the technically qualified person responsible for the engineering information contained in the foregoing Response,
- (ii) I am familiar with Part 25 of the Commission's Rules, and
- (iii) I have either prepared or reviewed the engineering information contained in the foregoing Response, and it is complete and accurate to the best of my knowledge and belief.

Signed:

/s/

David Pattillo

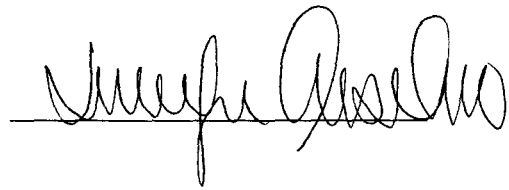
February 3, 2006

Date

CERTIFICATE OF SERVICE

I hereby certify that, on this 3rd day of February, 2006, a copy of the foregoing Response of DIRECTV Enterprises, LLC was served by electronic mail, with a copy by hand delivery, upon:

Pantelis Michalopoulos (pmichalo@steptoe.com)
Steptoe & Johnson LLP
1330 Connecticut Avenue, N.W.
Washington, DC 20036

A handwritten signature in black ink, appearing to read "Pantelis Michalopoulos", written over a horizontal line.