

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

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In the Matter of)	
ECHOSTAR CORPORATION)	File No. SAT-LOA-20070105-00003
)	File No. SAT-AMD-20080114-00022
)	File No. SAT-AMD-20080213-00045
Application for Modification of Authority to)	File No. SAT-MOD-2011____-____
Construct, Launch, and Operate a Satellite at)	Call Sign S2725
75.0° W.L. in the 17/24 BSS GHz Band)	
)	

APPLICATION FOR MODIFICATION

Pursuant to Sections 308 and 309 of the Communications Act of 1934, as amended,¹ Section 25.117(d) of the Commission’s rules,² and Condition 8 of its space station authorization,³ EchoStar Corporation (“EchoStar”) respectfully submits this application to modify its authority to construct, launch, and operate a 17/24 GHz Broadcast-Satellite Service (“BSS”) satellite at the 75.0° W.L. orbital location to provide a revised post-mission disposal plan for its proposed satellite.⁴ Under the revised plan, which is attached hereto, the satellite will be maneuvered to at

¹ 47 U.S.C. §§ 308, 309.

² 47 C.F.R. § 25.117(d).

³ See Stamp Grant, File Nos. SAT-LOA-20070105-00003, SAT-AMD-20080114-00022, SAT-AMD-20080213-00045, at Condition 8 (granted Mar. 18, 2009).

⁴ EchoStar will amend this application soon to reflect additional technical changes to the satellite that resulted from the recently completed Critical Design Review. See Confidential Letter from Pantelis Michalopoulos, Counsel for EchoStar Corporation, to Marlene H. Dortch, Secretary, FCC, filed in File Nos. SAT-LOA-20070105-00003, SAT-AMD-20080114-00022, SAT-AMD-20080213-00045 (Mar. 17, 2011).

least 300 km above the geostationary orbit.⁵ This is 10 km greater than the minimum disposal orbit required under Section 25.283(a) of the Commission's rules.⁶

EchoStar has previously described in its application, which is hereby incorporated by reference, the public interest benefits from the construction, launch and operation of a 17/24 GHz BSS satellite at 75.0° W.L.⁷ This modification request is in the public interest for the same reasons. Additionally, the revised post-mission disposal plan will ensure that the satellite is properly de-orbited at the end of its life, reducing the risk it will become a collision risk for operating satellites.

Respectfully submitted,

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⁵ See Attachment.

⁶ 47 C.F.R. § 25.283(a).

⁷ See Stamp Grant, File No. SAT-LOA-20070105-00003, Narrative, at 12-14 (granted Mar. 13, 2009).

ATTACHMENT

Revised Post-Mission Disposal Plan

At the end of the operational life of the ECHOSTAR EX-4 satellite, EchoStar will maneuver the satellite to a disposal orbit with a minimum perigee of 300 km above the normal GSO operational orbit. This proposed disposal orbit altitude exceeds the minimum required by 47 C.F.R § 25.283, which is calculated below.

The input data required for the calculation are as follows:

Total Solar Pressure Area “A” = 110.5 m²

“M” = Dry Mass of Satellite = 2491 kg

“C_R” = Solar Pressure Radiation Coefficient (worst case) = 1.24

Using the formula given in § 25.283, the Minimum Disposal Orbit Perigee Altitude is calculated as follows:

$$\begin{aligned} &= 36,021 \text{ km} + 1000 \times C_R \times A/m \\ &= 36,021 \text{ km} + 1000 \times 1.24 \times 110.5/2491 \\ &= 36,076 \text{ km} \\ &= 290 \text{ km above GSO (35,786 km)} \end{aligned}$$

While the minimum disposal orbit altitude required by § 25.283 is 290 km, EchoStar will reserve enough fuel to meet or exceed a minimum perigee disposal orbit of 300 km out of an abundance of caution. Thus, the designed disposal orbit of 300 km above GSO exceeds the required minimum by a margin of 10 km. Taking account of all fuel measurement uncertainties, performing the final orbit raising maneuvers will require approximately 11.6 kg of propellant, which will be reserved.