

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

_____)	
In the Matter of)	
)	
Maxar License Inc.)	File Nos.
)	SAT-AMD-2021XXXX-XXXXX;
Application for Modification of)	SAT-AMD-20210802-00094;
Authorization (Call Sign S2129))	SAT-MOD-20210506-00060
_____)	

**SECOND AMENDMENT OF APPLICATION OF MAXAR LICENSE INC.
FOR MODIFICATION OF AUTHORIZATION**

I. INTRODUCTION AND DESCRIPTION OF REQUESTED AMENDMENT.

Maxar License Inc. (“Maxar”) hereby seeks to amend its application for modification of its Earth Exploration Satellite Service (“EESS”) non-geostationary satellite orbit (“NGSO”) constellation authorization (call sign 2129).¹

In June 2019, the Commission authorized Maxar to construct, launch and operate 12 satellites known together as WorldView-Legion.² The WorldView-Legion constellation consists of six Block 1 satellites and six Block 2 satellites. Maxar continues to make significant progress toward its deployment of WorldView-Legion, with Block 1 scheduled to begin launch in March 2022.

On May 6, 2021, Maxar filed to modify the planned orbital configuration of the WorldView-Legion satellites to accommodate Maxar’s updated system design (the

¹ See Application of Maxar License Inc. for Modification of Authorization (Call Sign S2129), IBFS File Nos. SAT-MOD-20210506-00060 (filed May 6, 2021) (pending) (“*Modification*”) and SAT-AMD-20210802-00094 (filed Aug. 2, 2021) (pending) (“*Amendment*”); see also DG Consents Sub, Inc., DigitalGlobe Legion MOD, Stamp Grant, IBFS File No. SAT-MOD-20180918-00073 (June 13, 2019) (“*Legion Grant*”).

² See *supra* n.1.

“Modification”).³ On August 2, 2021, Maxar filed to amend the altitude for the two WorldView-Legion Block 1 sun-synchronous (“SSO”) satellites and other orbital parameters impacted by that proposed change (the “Amendment”).⁴ Since filing the Modification and Amendment, the Company has continued to refine the operational parameters to further optimize the remote sensing capabilities and coverage of its WorldView-Legion system for its customers, including the U.S. government.

By this amendment, Maxar seeks to make two alterations. First, it provides updated apogees and perigees for the WorldView-Legion Block 1 and Block 2 satellites. The lower bound of the mission altitude remains 450 km, while the upper bound remains 870 km. Second, it provides updated nominal altitudes for the Block 2 satellites.⁵ All other information in the Modification and Amendment unrelated to these alterations remains unchanged, and Maxar incorporates by reference the information previously provided.

The following table summarizes the changes requested by the Modification, Amendment, and herein:

Constellation orbits	WorldView-Legion Authorization				WorldView-Legion Requested Parameters			
	<i>Nominal Altitude</i>	<i>Apogee</i>	<i>Perigee</i>	<i>Inclination</i>	<i>Nominal Altitude</i>	<i>Apogee</i>	<i>Perigee</i>	<i>Inclination</i>
<i>Block 1 SSO (2)</i>	763	777.4	762.6	98.48	518	520.48	503.12	97.47
<i>Block 1 MIO (4)</i>	518	523.3	512.7	45	518	524	515	45
<i>Block 2 SSO (2)</i>	763	777.4	762.6	98.48	600	602.4	585.6	97.79
<i>Block 2 MIO (4)</i>	518	523.3	512.7	45	545	553.4	533.6	57

*all altitudes in kilometers; all inclinations in degrees.

³ See Modification.

⁴ See Amendment. WorldView-Legion has two SSO satellites in each block, and four mid-inclination orbit (“MIO”) satellites in each block.

⁵ As shown in the table, this amendment also proposes to revert to the currently-authorized 518km nominal altitude for the Block 1 MIO satellites.

In accordance with Section 25.116 of the Commission’s rules,⁶ the technical characteristics of the proposed amendment are detailed in the Schedule S portion of the FCC Form 312. With this amendment, Maxar completed a new Schedule S to the best of its ability and within the limitations of the Commission’s software. The Schedule S form software would not allow entry of an Effective Isotropic Radiated Power (“EIRP”) value less than 0.0 dBW. Because the actual transmit EIRP value for the “NB” beam is -6.8 dBW, Maxar entered 0.0 dBW.

In its original application for WorldView-Legion, Maxar provided an orbital debris mitigation plan,⁷ which the Commission accepted in granting the application.⁸ With the exception of the operational altitudes outlined above, nothing in this amendment alters that mitigation plan.

II. GRANT OF THE MODIFICATION WILL SERVE THE PUBLIC INTEREST.

Since filing the original Legion Application, and the subsequent Modification and Amendment, Maxar has continued to refine the operational parameters for the WorldView-Legion system. Grant of the instant application serves the public interest as the amendment will allow Maxar to more effectively deploy the WorldView Legion system, which will in turn provide immense value for remote sensing customers.⁹

⁶ 47 C.F.R. § 25.116(e).

⁷ See *Legion Application*, at 4-5.

⁸ See generally *Legion Grant*.

⁹ See *DigitalGlobe, Inc.*, Order and Authorization, 20 FCC Rcd 15696, ¶ 9 (I.B. 2005) (“*DigitalGlobe, Inc.*”) (“[T]he Commission has determined that spacecraft design decisions should be left to each space station licensee, because the licensee is in a better position to determine how to tailor its system to meet the particular needs of its customer base.”) ; see also *Assignment of Orbital Locations to Space Stations in the Domestic Fixed-Satellite Service*, Memorandum Opinion and Order, 3 FCC Rcd 6972, ¶ 2 (1988) (The Commission adopted a “flexible” policy to “allow satellite operators to respond promptly to changing technological . . . conditions.”).

Moreover, grant of the modification will not impact the interference environment.¹⁰ The amended WorldView-Legion Block 1 satellites will continue to meet power flux density limits in Table 21-4 of Article 21 of the ITU Radio Regulations to protect terrestrial services and No. 22.5 of the Radio Regulations to protect GSO FSS (E-s) and the meteorological-satellite service (E-s).¹¹ Maxar will also continue to coordinate its use of the 8025-8400 MHz band to avoid interference with other EESS systems.¹²

WorldView-Legion will enable Maxar to deliver unprecedented performance and value for its remote sensing customers by enabling significantly more accurate, comprehensive, and timely pattern-of-life and human geography analysis than the currently available systems. WorldView-Legion will offer more frequent monitoring for enhanced support of emergency response, maritime surveillance, infrastructure, and other remote monitoring needs. Legion will also provide coverage from sunup to sundown and reduce the windows between data collects, allowing for more persistent monitoring of critical areas of interest. The revisit rate of WorldView-Legion for a specific geographic area enables more real-time, actionable analysis to deliver insights into rapid change faster, and Maxar will be able to more quickly and accurately generate and regenerate a 3D skin of the Earth. Promptly granting this amendment application will facilitate the rapid deployment of this technology in the configuration best suited to serve customers.

III. REQUESTS FOR WAIVER

Maxar requests, to the extent necessary, that the waivers previously requested in the Legion

¹⁰ *DigitalGlobe, Inc.*, at ¶ 9 (citing *EarthWatch Inc.*, Order and Authorization, 16 FCC Rcd 15985, ¶ 10 (I.B. 2001)) (“If a [modification] proposal will not cause interference to other licensed operations, the Commission generally authorizes it if it is otherwise in the public interest.”).

¹¹ *See Legion Grant* at Condition 4.

¹² *See id.* at Conditions 5 and 6.

Modification application with respect to Sections 25.156, 25.157, and 25.217(b) extend to the instant application. The amended orbital parameters requested in the instant application do not alter the good cause basis for waiver presented in the Legion Modification.

IV. CONCLUSION

For the reasons set forth above, Maxar respectfully requests that the Commission grant this request for amended authority.

Respectfully submitted,

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