

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

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

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

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 Specifically, Maxar seeks authority to change the altitude and other orbital parameters impacted by this proposed change for the two WorldView-Legion Block 1 sun-synchronous orbit (“SSO”) satellites.² All other information in the Legion Modification unrelated to this proposed alteration remains unchanged, and Maxar incorporates by reference the information previously provided.

Maxar continues to make significant progress toward its deployment of WorldView-Legion, with Block 1 scheduled for launch later this year. As Maxar prepares to deploy Block 1, the Company has refined 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.

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

² Block 1 consists of six WorldView-Legion satellites: two SSO satellites, and four mid-inclined orbit (“MIO”) satellites.

I. DESCRIPTION OF THE AMENDMENT REQUESTED

On June 13, 2019, the FCC authorized Maxar, under its former name DG Consents Sub, Inc., to construct, launch and operate the twelve satellites known as WorldView-Legion.³ On May 6, 2021, Maxar filed a modification application seeking authority to modify the planned orbital configuration of the WorldView-Legion satellites to accommodate Maxar’s updated system design.⁴ Specifically, the Legion Modification seeks to modify the mission orbits contained in Table 2 of its original Worldview-Legion application for both its MIO and SSO spacecraft.⁵ Maxar herein seeks authority to amend the SSO parameters for its Block 1 spacecraft to accommodate Maxar’s updated system design.

The following table summarizes the changes to these parameters during various operational stages, with the altered figures bolded and italicized for clarity. As reflected in Figure 1, the lower bound and upper bound of mission altitude are not changing and remain the same as currently authorized. Likewise, post-end of life (“EOL”) lowering altitude, time to re-entry after lowering, total time in orbit, and the calculation notes listed below Figure 1 will not change and remain the same as currently authorized.

³ See *supra* n.1.

⁴ See *Legion Modification*.

⁵ See Application of DG Consents Sub, Inc. for Modification of Authorization, IBFS File No. SAT-MOD-20180918-00073, Ex. 43, at 7, Table 2 (filed Sept. 18, 2018) (“*Legion Application*”). On January 6, 2021, DG Consents Sub, Inc. notified the Commission of its name change to the current Maxar License Inc. See Letter from Henry Gola, Counsel to Maxar License Inc., to FCC, IBFS File No. SAT-MOD-20180918-00073 (Jan. 6, 2021).

Figure 1. Planned Operational Orbit Configuration Pre- and Post-Modification

	Mission Altitude			Mission Inclination		Post-EOL Lowering Altitude		Time to Re-entry After Lowering		Total Time in Orbit	
	Pre-mod	Post-mod	<i>As amd</i>	Pre-mod	Post-mod/amd	Pre-mod	Post-mod/amd	Pre-mod	Post-mod/amd	Pre-mod	Post-mod/amd
Lower bound	450 km			45.0 deg or 97.243 deg		RE-ENTRY		N/A		10 years*	
Block 1 MIO	518 km	<i>450 km</i>	<i>450 km</i>	45.0 deg		RE-ENTRY		N/A		10 years*	
Block 1 SSO	763 km	<i>450 km</i>	<i>518 km</i>	<i>97.47 deg</i>		RE-ENTRY		N/A		10 years*	
Upper bound	870 km			45.0 deg or 98.937 deg		381 km		1.75 years		11.75 years	

*Upon completion of the mission, satellites are able to lower their orbits such that re-entry will occur without need for gradual orbital decay.

Notes:

1. Propellant life is calculated assuming 3-sigma launch dispersions are removed and all remaining propellant is used to maintain the orbit throughout nominal mission life (seven years).
2. Time to re-entry is calculated from the point when all propulsive orbit maintenance ceases at end of nominal mission.
3. Actual mission duration may exceed ten years if satellite remains functional.

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. Maxar completed the 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

⁶ 47 C.F.R. § 25.116(e).

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 Legion Modification, Maxar has continued to refine the operational parameters for the WorldView-Legion system, and this amendment will allow the company to take advantage of this innovation.⁹ 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.¹⁰

Moreover, grant of the modification will not impact the interference environment.¹¹ 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-

⁷ See *Legion Application*, at 4-5.

⁸ See generally *Legion Grant*.

⁹ The Commission has “repeatedly recognized that[] [g]iven the fairly lengthy time period required to construct a satellite, licensees often file requests to modify the technical design of their satellites as they are being built,” which “allow[s] the licensee to take advantage of the latest technology in providing service to the public.” *Teledesic LLC*, Order and Authorization, 14 FCC Rcd 2261, ¶ 5 (I.B. 1999) (internal citations omitted).

¹⁰ 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.”).

¹¹ *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.”).

s).¹² Maxar will also continue to coordinate its use of the 8025-8400 MHz band to avoid interference with other EESS systems.¹³

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 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.

¹² See *Legion Grant* at Condition 4.

¹³ See *id.* at Conditions 5 and 6.

IV. CONCLUSION

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

Respectfully submitted,

By: /s/ Christian Meyer

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August 2, 2021

FCC Form 312, Question 40: Ownership Exhibit

Maxar License Inc. (“Maxar License”) is a wholly owned subsidiary of Maxar Intelligence Inc. (“Maxar Intelligence”), a Delaware corporation. Maxar Intelligence is a wholly owned subsidiary of Maxar Technologies Holdings Inc. (“Maxar Holdings”), a Delaware corporation and itself a wholly owned subsidiary of Maxar Technologies Inc. (“Maxar”), a publicly traded Delaware corporation listed on the New York Stock Exchange and Toronto Stock Exchange.

Maxar’s headquarters are:

1300 W. 120th Ave.
Westminster, CO 80234

Ownership

No individuals or entities hold a 10 percent or more equity and/or voting interest in Maxar.

Directors

Maxar’s Directors are:

NAME	ADDRESS	CITIZENSHIP
Daniel L. Jablonsky President and CEO	1300 W. 120th Ave. Westminster, CO 80234	U.S.
Gen. Howell M. Estes III Chairman of the Board	1300 W. 120th Ave. Westminster, CO 80234	U.S.
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Roxanne Decyk	1300 W. 120th Ave. Westminster, CO 80234	U.S.
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Gilman Louie	1300 W. 120th Ave. Westminster, CO 80234	U.S.
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Officers

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