

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)	
)	
Kinéis)	IBFS File No. SAT-PDR-20191011-00113
)	Call Sign S3054
Petition for Declaratory Ruling to Access the)	
U.S. Market Using a Low-Earth Orbit)	
Satellite System)	

ORDER AND DECLARATORY RULING

Adopted: November 18, 2021

Released: November 19, 2021

By the Commission:

I. INTRODUCTION

1. In this Order and Declaratory Ruling, we grant the petition (and associated waiver request) of Kinéis to access the U.S. market using frequencies of the non-voice, non-geostationary (NVNG) mobile-satellite service (MSS) and earth exploration-satellite service (EESS) through a constellation of up to 25 small, low-Earth orbit (LEO) satellites authorized by France.¹ We grant Kinéis market access in the 399.9-400.05 MHz and 401-403 MHz (Earth-to-space, i.e., uplink) bands, and the 400.15-401 MHz (space-to-Earth, i.e., downlink) band, subject to the conditions and other requirements specified herein.² The constellation will provide connectivity for Internet of Things (IoT) devices used by consumers in the United States and worldwide, as well as enhancements to maritime domain awareness through monitoring of maritime communications.³ Five of the satellites will actively monitor certain signals in the 156.7625-162.0375 MHz band transmitted by stations in the maritime service. Grant of this petition furthers the Commission’s mandate to “make available, so far as possible, to all the people of the United States ... rapid, efficient, Nation-wide, and world-wide communication services.”⁴

II. BACKGROUND

2. *Processing Round.* For licensing and grants of U.S. market access for non-geostationary satellite orbit (NGSO)-like systems, the Commission employs a processing round procedure which

¹ The Commission established a rebuttable presumption in favor of entry by satellites licensed by other World Trade Organization (WTO) member countries to provide services covered by the U.S. commitments under the WTO Agreement. *Amendment of the Commission’s Regulatory Policies To Allow Non-U.S.-Licensed Space Stations To Provide Domestic and International Satellite Service in the United States*, Report and Order, 12 FCC Rcd 24094 (1997). France has been a WTO member since 1995.

² Kinéis, Petition for Declaratory Ruling Requesting Access to the U.S. Market for a Non-Voice, Non-Geostationary Satellite Network, IBFS File No. SAT-PDR-20191011-00113, Narrative at 7-8, Technical Annex at 3 (Kinéis Petition). Kinéis’s petition was filed under SAT-LOI-20191011-00113, however, section 25.137 of the Commission’s rules specifies that a petition for declaratory ruling is the means to request U.S. market access through any type of non-U.S. licensed space station in any frequency band. Accordingly, we have changed Kinéis’s IBFS file number from a Letter of Intent (LOI) to a Petition for Declaratory Ruling (PDR).

³ Kinéis Petition, Narrative at 2.

⁴ 47 U.S.C. § 151.

includes a public notice announcing a cut-off date for applications to be considered concurrently. After review of each of the applications in the processing round and any pleadings filed in response to the applications, the Commission will grant the application if it finds the applicant is legally, technically, and otherwise qualified, and that grant of the application will serve the public interest.⁵ Also, except for NGSO fixed-satellite service (FSS) systems as provided by section 25.157(b)(2), if there is not enough spectrum to accommodate all qualified applicants, the Commission will divide the spectrum equally among the applicants, with a pre-set band splitting mechanism to assign spectrum among operators.⁶ Each licensee or grantee of U.S. market access will be allowed to choose its specific band assignment before it launches its first satellite.⁷ Licensees and grantees may also negotiate alternative agreements to redistribute bandwidth after authorizations have been issued.⁸ The purpose of the processing round procedure is to prevent one applicant from unreasonably precluding additional entry by other operators in the requested frequency band.⁹

3. On August 15, 2019, the International Bureau (Bureau) released a public notice accepting for filing Myriota Pty. Ltd.'s petition seeking U.S. market access for its NVNG MSS system using the 399.9-400.05 MHz and 400.15-401 MHz bands.¹⁰ In the notice, the Bureau also initiated a processing round for NVNG MSS systems in these bands.¹¹ The notice stated that previously filed and pending applications for operations in these bands would be included in this processing round.¹²

⁵ 47 CFR §§ 25.156, 25.157.

⁶ *Amendment of the Commission's Space Station Licensing Rules and Policies*, First Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 10760, 10783 (2003) (*Space Station Reform Order*). "NGSO-like" is a term used in the Commission's rules to describe systems which are either (1) NGSO satellite systems or (2) geostationary orbit (GSO) MSS satellite systems that communicate with earth stations using non-directional antennas. See 47 CFR § 25.157(a).

⁷ 47 CFR § 25.157(f).

⁸ *Space Station Reform Order*, 18 FCC Rcd at 10781.

⁹ See *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 7809, 7829, para. 61 (2017) ("The purpose of the recent processing rounds was to establish a sharing environment among NGSO systems, to provide a measure of certainty in lieu of adopting an open-ended requirement to accommodate all future applicants").

¹⁰ *Satellite Policy Branch Information, Myriota Pty. Ltd. Petition Accepted for Filing, IBFS File No. SAT-PDR-20190328-00020, Cut-Off Established for Additional NVNG MSS Applications or Petitions for Operations in the 399.9-400.05 MHz and 400.15-401 MHz Bands*, Public Notice, DA 19-779 (Aug. 15, 2019) (Processing Round Public Notice). For convenience, we refer to this processing round as the "400 MHz Processing Round."

¹¹ *Id.*

¹² *Id.* In addition to Myriota, Hiber Inc.'s and Spire Global's petitions were included in the processing round. Hiber's application was granted on May 6, 2020. See Hiber, Inc., SAT-PDR-20180910-00069, DA 20-491 (granted May 6, 2020). Hiber, however, recently surrendered its market access grant. See Letter from Bruce Henoch, General Counsel, Hiber Inc., to Marlene H. Dortch, Secretary, FCC (filed Sept. 24, 2021). Myriota's application was granted on May 29, 2020. See Myriota, Pty. Ltd., SAT-PDR-20190328-00020, DA 20-571 (granted May 29, 2020). Spire requests use of the 399.9-400.05 MHz band for telemetry, tracking, and control uplinks only. Spire's petition was granted in part on October 7, 2019, but its use of the 399.9-400.05 MHz band was deferred and will be addressed as part of the 400 MHz Processing Round. See Spire Global Inc., IBFS File No. SAT-PDR-20190321-00018, n.2 (grant stamped Oct. 7, 2019). The 400 MHz Processing Round also includes Astro Digital, which was subject to a separate accepted for filing public notice that did not initiate a processing round. Astro Digital's application was granted in part and deferred in part. Astro Digital, IBFS File No. SAT-LOA-2017050800071 (grant stamped Aug. 1, 2018). Within the frequency ranges included in the processing round, Astro Digital was authorized to use a telemetry carrier (space-to-Earth) centered at 400.5 MHz (center frequency). Its request to use other portions of the 399.9-400.05 MHz and 400.15-401 MHz bands remains pending and is included in the 400 MHz

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4. *Application.* In response to the Processing Round Public Notice, on October 11, 2019, Kinéis filed a Petition for Declaratory Ruling seeking access to the U.S. market for its NVNG MSS system using the 399.9-400.05 MHz (Earth-to-space) and 400.15-401 MHz (space-to-Earth) bands. Kinéis also requested access to the U.S. market using the 401-403 MHz (Earth-to-space) and 2200-2290 MHz (space-to-Earth) bands, and for telemetry, tracking, and command (TT&C), the 401.58-401.61 MHz (Earth-to-space) and 2200-2290 MHz (space-to-Earth) bands. Kinéis proposes TT&C operations using earth stations located outside the United States in the 400.02-400.05 MHz (Earth-to-space) and 2200-2290 MHz (space-to-Earth) frequency bands. Kinéis withdrew its request for U.S. market access for TT&C operations in the 401.58-401.61 MHz (Earth-to-space) and 2200-2290 MHz (space-to-Earth) bands and gateway downlink in the 2200-2290 MHz (space-to-Earth) frequency band after coordination with U.S. government agencies.¹³

5. The Kinéis network will provide data connectivity for IoT devices worldwide in the maritime, agricultural, logistics, outdoor sports, security, and scientific sectors.¹⁴ The Kinéis system will build upon and be compatible with the Argos data collection system (DCS), an existing system utilizing satellites in a polar orbit at an altitude of 850 kilometers.¹⁵ Kinéis's constellation will operate in a sun-synchronous orbit at an altitude of approximately 650 kilometers, with a maximum of five orbital planes, each containing five satellites operating at an inclination of 98 degrees.¹⁶ Two satellites per plane will have maritime capabilities, *i.e.* will be able to receive signals in the 156.7625-162.0375 MHz band, but only one satellite per plane will actively monitor maritime signals.¹⁷ In its petition, Kinéis requests waivers of certain Commission rules, including the U.S. Table of Frequency Allocations and rules governing the information submitted in the Schedule S software.¹⁸ Kinéis's Petition was placed on public notice and no comments were filed in response.¹⁹

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Processing Round for the pending portion of its application and any modification to its authorization resulting from consideration of the lead and competing applications in this processing round. *See Satellite Policy Branch Information, Actions Taken*, Public Notice, DA 20-184 (Feb. 21, 2020).

¹³ Kinéis Petition, Technical Annex at 3; *see* Letter from Assia Bahri, Head of Regulatory and Spectrum Affairs, Kinéis, to Marlene H. Dortch, Secretary, FCC (filed Dec. 14, 2020) (Kinéis December 2020 Letter); *see* Letter from Assia Bahri, Head of Regulatory and Spectrum Affairs, Kinéis, to Marlene H. Dortch, Secretary, FCC (filed Feb. 16, 2021) (Kinéis February 2021 Letter).

¹⁴ Kinéis Petition, Narrative at 4.

¹⁵ *Id.*, at 3. The Argos DCS is a worldwide network of data collection satellites cooperatively managed by France's space agency, CNES, along with NASA and NOAA, since 1978. The Argos satellites have successfully been used to study oceans and atmospheric conditions, monitor volcanoes, manage water resources, preserve and monitor wildlife, monitor shipments of dangerous goods, monitor fishing fleets, and for other humanitarian applications. Kinéis will use the same frequencies as the legacy Argos satellites, 401-403 MHz, to continue the service with its next-generation Argos satellites. Currently active Argos satellites will continue to operate in the same frequency bands, and cooperation between NOAA, NASA, and CNES will continue with the program. Kinéis Petition, Technical Annex at 4-5, Narrative at 3. Currently active Argos satellites receive transmissions from "platforms" around the world and downlink data when in contact with any of the three main Argos earth station sites at Wallops Island, Virginia; Fairbanks, Alaska; and Svalbard, Norway, or to one of the system's nearly 70 regional reception sites. "How Argos Works", available at: <https://www.argos-system.org/argos/how-argos-works/>.

¹⁶ Kinéis Petition, Technical Annex at 1-2.

¹⁷ *Id.* at 2; *see also* Kinéis Petition, Legal Narrative at 3 (stating that ten satellites will be capable of receiving maritime signals). Kinéis clarified that only five satellites (one satellite per plane) will actively monitor maritime signals, while the additional five satellites with maritime capabilities will serve as a backup in the event of a primary AIS payload failure. *See* Letter from David S. Keir, Counsel, Kinéis, to Marlene H. Dortch, Secretary, FCC (filed June 14, 2021) (Kinéis AIS Letter).

¹⁸ Kinéis Petition, Waiver Requests.

III. DISCUSSION

6. After review of the record and given the rebuttable presumption in favor of entry into the U.S. market by satellites licensed by other WTO member countries, we conclude that granting Kinéis access to the U.S. market for its proposed satellite system to provide connectivity for IoT devices and to implement the next generation Argos DCS would serve the public interest, subject to the requirements and conditions specified herein. Below we address the various considerations and conditions for market access in specific frequency bands as well as coordination with Federal operations and other non-Federal operations. We also address Kinéis's waiver requests.

A. Frequencies Included in the 400 MHz Processing Round

1. Operations in the 399.9-400.05 MHz band

7. For its service uplinks, Kinéis proposes to operate in the 399.9-400.05 MHz band.²⁰ Kinéis can accommodate a wide variety of bandwidth channels, including down to 1.2 kHz.²¹ Kinéis's proposed use is consistent with the U.S. Table of Frequency Allocations, which allocates the band to the MSS and radionavigation-satellite service on a primary basis for both Federal and non-Federal use.²² MSS use of the band is limited to the NVNG MSS.²³ Kinéis is granted market access for operations in this band subject to the conditions herein.

8. We also note that International Telecommunication Union Radio Regulations (ITU R.R.) were recently revised to include a maximum equivalent isotropically radiated power (e.i.r.p.) of any emission of MSS earth stations for this band. This requirement came into force on November 23, 2019,²⁴ but the Commission has not yet considered whether to adopt the new limits for e.i.r.p. emissions in this band into its rules. Kinéis has stated it will comply with the limits, and we condition this grant accordingly at this time.²⁵ The grant of its application is subject to any future Commission proceedings, including any decision by the Commission regarding adoption of any e.i.r.p. or other limits into its rules. For its TT&C uplink operations using earth stations located outside the United States in 400.02-400.05 MHz, we further note that footnote No. 5.260B of the ITU Radio Regulations states: "In the frequency band 400.02-400.05 MHz, the provisions of No. 5.260A are not applicable for telecommand uplinks

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¹⁹ *Satellite Policy Branch Information, Space Station Accepted for Filing*, Public Notice, Report No. SAT-01449 (March 6, 2020).

²⁰ Kinéis Petition, Technical Annex at 3.

²¹ *Id.*

²² Federal use of the 399.9-400.05 MHz band is limited to earth stations operating with non-Federal space stations. 47 CFR § 2.106, footnote US319. The Commission has proposed to remove this limitation on Federal use of the band. *Amendment of Part 2 of the Commission's Rules for Federal Earth Stations Communicating with Non-Federal Fixed Satellite Service Space Stations*, ET Docket No. 13-115, Notice of Proposed Rulemaking and Notice of Inquiry, 28 FCC Rcd 6698, 6722, para. 63 (2013); *Amendment of Part 2 of the Commission's Rules for Federal Earth Stations Communicating with Non-Federal Fixed Satellite Service Space Stations*, ET Docket No. 13-115 Report and Order and Further Notice of Proposed Rulemaking, 36 FCC Rcd 7764, 7820-7822, paras. 152-56 (2021).

²³ 47 CFR § 2.106, footnote US320. Federal use of NVNG MSS is pursuant to frequency assignment policies of the National Telecommunications and Information Administration (NTIA).

²⁴ Final Acts of the World Radiocommunication Conference (Sharm El-Sheikh, 2019) (*WRC-19 Final Acts*), pp. 16 and 250, Nos. 5.260A, 5.260B and Resolution 99 (Rev.WRC-19), <https://www.itu.int/pub/R-ACT-WRC/en>. The e.i.r.p. limits in No. 5.260A apply to all MSS systems after 23 November 2022 regardless of the date of submission of complete notification information.

²⁵ Kinéis Petition, Technical Annex at 7-8.

within the mobile-satellite service.”²⁶

2. Operations in the 400.15-401 MHz band

9. For its service downlinks, Kinéis proposes to use the 400.15-401 MHz band.²⁷ This band is allocated for the MSS, and for the space operation service, for both Federal and non-Federal use.²⁸ Kinéis’s proposed use is consistent with the U.S. Table of Frequency Allocations, which allocates the band to the MSS and limits it to NVNG systems.²⁹ Kinéis will operate a carrier with a center frequency that has not been fixed at this time, having a bandwidth of only 4 kilohertz, and Kinéis will be capable of ceasing emissions if necessary.³⁰ In addition, it expects to be able to share with Orbcomm Licensee Corp (Orbcomm), which is authorized and currently operating in the band, and any other users in this band.³¹ Further, Kinéis states it is capable of complying with requirements to time share with Department of Defense (DoD) satellite operations.³²

10. In addition, as required by section 25.142(a)(2) of the Commission’s rules, Kinéis identified the power flux-density (pfd) produced at the Earth’s surface by each space station in its system in the 400.15-401 MHz band.³³ This information is necessary to determine whether coordination with terrestrial services is required.³⁴ Kinéis represents that its pfd on the ground will be no more than -126.8 dBW/m²/4 kHz, which is below the coordination threshold.³⁵ Because Kinéis’s satellites do not exceed the pfd threshold for coordination with terrestrial services under the Commission’s rules, such coordination will not be required.³⁶ Kinéis also, as required by the rule, identified measures taken to protect the radio astronomy service in the 150.05-153 MHz and 406.1-410 MHz bands from harmful interference from unwanted emissions.³⁷

3. Coordination with NVNG MSS systems

11. Kinéis must also demonstrate that its satellite system will not cause unacceptable interference to other authorized NVNG MSS systems in the frequency bands where Kinéis proposes to operate.³⁸ Further, applicants for authority to operate NVNG MSS systems are “encouraged to coordinate their proposed frequency usage... and [a]ll affected applicants, permittees, and licensees shall, at the direction of the Commission, cooperate fully and make every reasonable effort to resolve technical problems and

²⁶ *WRC-19 Final Acts* at pp. 16 and 250, Nos. 5.260A, 5.260B and Resolution 99 (Rev. WRC-19), <https://www.itu.int/pub/R-ACT-WRC/en>.

²⁷ Kinéis Petition, Technical Annex at 3.

²⁸ Space operation service refers to the transmission of the satellite telemetry data from the satellite to receiving earth station(s) for the mobile satellite service and Earth exploration satellite service operating in this band.

²⁹ 47 CFR § 2.106, footnote US320. The band 400.15-401 MHz is also allocated to the space research service in the space-to-space direction for communications with “manned space vehicles.” 47 CFR § 2.106, footnote 5.263.

³⁰ Kinéis Petition, Technical Annex at 7.

³¹ *Id.*

³² *Id.*, at 11.

³³ *Id.*, at 8.

³⁴ *Id.* These pfd limits are set forth in the ITU Radio Regulations at Appendix 5, Annex 1.

³⁵ Kinéis Petition, Technical Annex at 8.

³⁶ 47 CFR § 25.142(a)(2) referencing § 2.106. See footnote 5.264, which in turn references Annex 1 of Appendix 5 of the ITU Radio Regulations, requiring coordination of MSS space stations with terrestrial services if the PFD exceeds -125 dB(W/m²/4 kHz). 47 CFR § 2.106, footnote 5.264.

³⁷ 47 CFR § 25.142(a)(2); Kinéis Petition, Technical Annex at 9, 14.

³⁸ 47 CFR § 25.142(a)(1).

conflicts that may inhibit effective and efficient use of the radio spectrum....³⁹ Orbcomm is currently authorized to operate in the 400.15-400.505 MHz and 400.645-401 MHz bands, and Kinéis's operations in these frequency bands must protect Orbcomm operations. In this context, Kinéis states that its downlink operations in the 400.15-401 MHz band can be accommodated with a single 4 kilohertz bandwidth carrier out of the 850 kilohertz in the 400.15-401 MHz band.⁴⁰

12. The applicants that filed by the cut-off date in this processing round represent that they are capable of sharing with current and future licensees in these bands. Consequently, we encourage the parties to reach an agreement regarding shared use of the bands for their NVNG MSS systems. Kinéis may commence operations in the 399.9-400.05 MHz and 400.15-401 MHz bands under the conditions set forth in this grant. Kinéis also must coordinate with other entities in the 400 MHz Processing Round licensed or granted U.S. market access for this spectrum. Absent a coordination agreement, spectrum will be divided among licensees and grantees of U.S. market access pursuant to section 25.157 of the Commission's rules.

4. Other Matters

13. The Commission also adopted specific rules governing NVNG MSS systems. Kinéis's grant of U.S. market access is subject to compliance with these rules,⁴¹ and is so conditioned herein. These rules include the pfd requirement noted above,⁴² and compliance with the emission limitations set forth in section 25.202(f).⁴³

B. Frequencies Not Included in the 400 MHz Processing Round

1. Operations in the 401-403 MHz band

14. Kinéis also proposes Earth-to-space operations in the 401-403 MHz band. The 401-403 MHz band is allocated to the Earth exploration-satellite service (EESS) and the meteorological-satellite service (METS), but in the United States non-Federal EESS and METS services are limited to non-Federal earth stations transmitting to Federal space stations.⁴⁴ Kinéis requests waiver of the United States Table of Frequency Allocations, 47 CFR § 2.106, footnote US384, to allow Kinéis to transmit to its satellites in the 401-403 MHz band.⁴⁵ Kinéis states that it is taking over and improving the Argos DCS, which has provided service in the 401-403 MHz band to Federal users for decades.⁴⁶ According to Kinéis, the National Oceanic and Atmospheric Administration (NOAA) will continue to use legacy Argos capacity, while Kinéis will deploy next-generation Argos earth stations to provide Argos DCS service to an expanded base of users.⁴⁷

15. Generally, the Commission may waive any rule for good cause shown.⁴⁸ Waiver is appropriate where the particular facts make strict compliance inconsistent with the public interest.⁴⁹ In

³⁹ 47 CFR § 25.142(b)(3).

⁴⁰ Kinéis Petition, Technical Annex at 7.

⁴¹ 47 CFR § 25.142.

⁴² *See supra* para. 9; 47 CFR § 25.142(a)(2).

⁴³ 47 CFR §§ 25.142(a)(2), (a)(3).

⁴⁴ 47 CFR § 2.106, footnote US384.

⁴⁵ Kinéis Petition, Waiver Request at 2-3.

⁴⁶ *Id.*, Technical Annex at 4-5, Waiver Request at 2.

⁴⁷ *Id.*, Waiver Request at 2.

⁴⁸ 47 CFR § 1.3.

⁴⁹ *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

making this determination, we may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis.⁵⁰ Waiver is therefore appropriate if special circumstances warrant a deviation from the general rule and such deviation will serve the public interest.⁵¹ We grant Kinéis a waiver of footnote US384 given Kinéis's unique position as the successor service provider for the Argos system and its commitment to coordinate with existing Federal users in the band. Kinéis operations are authorized on a non-conforming, non-harmful interference, and unprotected basis. Kinéis must immediately terminate non-conforming operations upon notification of harmful interference. We therefore grant Kinéis's waiver request and grant Kinéis access to the U.S. market to use the 401-403 MHz band for service uplinks, subject to completion of coordination with Federal operations.

16. We also note that Kinéis originally requested market access for command operations in the 401.58-401.61 MHz (Earth-to-space) band.⁵² After coordination with U.S. government agencies, Kinéis withdrew this request,⁵³ stating that it may elect to use frequencies in the 401-403 MHz band for backup TT&C uplink operations, and if so, it will do so using earth stations located outside the United States and after further coordination with U.S. government agencies.⁵⁴

17. We also note that the ITU Radio Regulations were recently revised to include a maximum e.i.r.p. of any emission of EESS/METS earth stations for this band.⁵⁵ Kinéis has indicated it will comply with the new limits reflected in the ITU R.R.,⁵⁶ and thus we condition Kinéis's operations accordingly, noting that this grant is subject to future Commission rulemaking proceedings. We will also apply this limit to Kinéis's earth stations in this band.

2. Operations in the 156.7625-162.0375 MHz band.

18. Kinéis proposes to use one satellite in each of the five planned orbital planes to monitor signals in the 156.7625-162.0375 MHz band used for maritime services, specifically the Automatic Identification System (AIS), Application Specific Messages (ASM), and VHF Data Exchange System (VDES) channels.⁵⁷ Five additional satellites (one satellite per plane) will carry a secondary AIS receiver to serve as a backup in the event of a primary AIS receiver failure.⁵⁸ We find that Kinéis's operations in

⁵⁰ *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969), *cert. denied*, 409 U.S. 1027 (1972); *Northeast Cellular*, 897 F.2d at 1166.

⁵¹ *Northeast Cellular*, 897 F.2d at 1166.

⁵² See Kinéis Petition, Technical Annex at 3.

⁵³ See Kinéis December 2020 Letter.

⁵⁴ *Id.*; see Kinéis February 2021 Letter.

⁵⁵ *WRC-19 Final Act* at pp. 17, 18, and 250, Nos. 5.264A, 5.264B and Resolution 99 (Rev. WRC-19), <https://www.itu.int/pub/R-ACT-WRC/en>. The e.i.r.p. limits in No. 5.264A apply to all EESS/METS systems after 22 November 2029 regardless of the date of submission of complete notification information.

⁵⁶ Kinéis Petition, Technical Annex at 13.

⁵⁷ *Id.*, Schedule S at 11; Letter from David S. Keir, Counsel to Kinéis, to Jose P. Albuquerque, Chief, Satellite Division, IBFS File No. SAT-PDR-20191011-00113, at 2 (dated Apr. 28, 2020) (Kinéis VDES Supplement). Specifically, Kinéis will receive the following channels: 161.9625-161.9875 MHz (AIS 1), 162.0125-162.0375 MHz (AIS 2), 156.7625-156.7875 MHz (AIS 3), 156.8125-156.8375 MHz (AIS 4), 161.9375-161.9625 MHz (ASM 1), 161.9875-162.0125 MHz (ASM 2), 157.1875-157.2125 MHz (VDE1), 157.2125-157.2375 MHz (VDE2), 157.2375-157.2625 MHz (VDE3), 157.2625-157.2875 MHz (VDE4), 157.2875-157.3125 MHz (VDE5), 157.3125-157.3375 MHz (VDE6), 161.7875-161.8125 MHz (VDE7), 161.8125-161.8375 MHz (VDE8), 161.8375-161.8625 MHz (VDE9), 161.8625-161.8875 MHz (VDEA), 161.8875-161.9125 MHz (VDEB), and 161.9125-161.9375 MHz (VDEC). Kinéis Petition, Schedule S at 11; Kinéis VDES Supplement at 2. Kinéis's specific VDES channels were dependent on Agenda Item 1.9.2 of the WRC-19 and were filed with the Bureau on April 28, 2020. Kinéis Petition, Technical Annex at 14; Kinéis VDES Supplement at 1.

⁵⁸ See Kinéis AIS Letter.

the 156.7625-162.0375 MHz band will serve the public interest by enhancing the use of signals emitted in the maritime services. Furthermore, AIS and ASM signals are terrestrial signals already being transmitted between ships; the Kinéis satellites will receive the signals and forward information derived from the signals to earth stations using other frequency bands.

19. We waive on our own motion the United States Table of Frequency Allocations⁵⁹ with respect to Kinéis's reception of ASM signals from stations transmitting in the 161.9375-161.9625 MHz (ASM 1) and 161.9875-162.0125 MHz (ASM 2) bands and with respect to Kinéis's reception of VDES signals from stations transmitting in the 157.1875-157.3375 MHz and 161.7875-161.9375 MHz (VDE-SAT) bands. These frequency bands are allocated internationally in ITU Region 2 for secondary maritime mobile-satellite service and several of these allocations were made at the 2019 ITU World Radiocommunication Conference (WRC); however, the Commission has not yet considered their implementation in the United States Table of Frequency Allocations.⁶⁰ Under these circumstances, we find that waiver of the United States Table of Frequency Allocations is warranted because we authorize reception in these frequency bands on an unprotected basis, and operations must be in accordance with any Commission rulemakings subsequent to the release of this market access grant that adopt any new domestic allocations or service rules for these bands. We note that waiver is not necessary for operations in the 156.7625-156.7875 MHz, 156.8125-156.8375 MHz, 161.9625-161.9875 MHz, and 162.0125-162.0375 MHz bands, as those are currently allocated in the United States Table of Frequency Allocations for maritime mobile-satellite service.⁶¹

20. Reception in the 156.7625-162.0375 MHz band must comport with the requirements on unauthorized publication or use of communications in section 705 of the Communications Act of 1934, as amended (47 U.S.C. § 605). This U.S. market access grant does not "authorize" the applicant with respect to the practices prohibited in section 705 of the Communications Act or in related provisions of chapter 119, Title 18, United States Code.

3. Operations in the 2200-2290 MHz band

21. Kinéis states it will conduct any operations using the 2200-2290 MHz band using earth stations located outside the United States.⁶² Kinéis has committed to coordinate any such operations with U.S. government agencies.⁶³

C. Sharing with Federal Systems

22. As noted above, both the 399.9-400.05 MHz and 400.15-401 MHz bands are allocated for Federal and non-Federal use. Several Federal agencies use the 400.15-401 MHz band for meteorological operations. For example, NOAA operates systems in this band to collect meteorological data for weather forecasting systems, including radiosondes, rocketsondes, and dropsondes.⁶⁴ In addition, the National

⁵⁹ See 47 CFR §§ 2.102, 2.106.

⁶⁰ See FCC Online Table of Frequency Allocations (where a secondary maritime mobile-satellite service (Earth-to-space) allocation is shown in the 161.9375-161.9625 and 161.9875-162.0125 MHz bands within the International Table), <https://transition.fcc.gov/oet/spectrum/table/fcctable.pdf>. See also *WRC-19 Final Acts* at p. 15 (where a secondary maritime mobile-satellite service allocation is shown in the 157.1875-157.3375 and 161.7875-161.9375 MHz bands) and Appendix 18 (Rev. WRC-19), pp. 150-51, specific notes w) and z); Kinéis VDES Supplement at 1.

⁶¹ See 47 CFR § 2.106.

⁶² See Kinéis December 2020 Letter.

⁶³ See *id.* at 1.

⁶⁴ 47 CFR § 2.106. Radiosondes are battery operated sensor packages lifted through the atmosphere by a balloon and used to transmit data to a ground station receiver. Dropsondes, in turn, are sensor packages dropped from aircraft and data is transmitted to an aircraft receiver for processing. Rocketsondes are small rocket systems used to obtain high altitude temperature, density, and wind measurements.

Aeronautics and Space Administration (NASA) uses the band for services involving the International Space Station, and the DoD uses the band for a variety of research, testing, and training purposes. The 401-403 MHz band is also allocated for both Federal and non-Federal use, though as discussed above, non-Federal use is limited by the United States Table of Frequency Allocations to non-Federal earth stations transmitting to Federal space stations. Grant of market access in the 400.15-401 and 401-403 MHz bands is conditioned upon Kinéis completing coordination for those frequency bands with the National Telecommunications and Information Administration for federal frequency assignments in the Government Master File (GMF).⁶⁵ We further condition Kinéis's operations in the 400.15-401 MHz (space-to-Earth) and 401-403 MHz (Earth-to-space) bands on compliance with the long-term interference criteria specified in Table 2 (Type C) of Recommendation ITU-R RS.1263-2 in order to protect Department of Commerce (DOC)/NOAA radiosondes operations in the United States. Additionally, prior to commencing operations in the U.S. market in the 400.15-401 MHz (space-to-Earth) frequency band, Kinéis must certify that it has completed a coordination agreement with the DOC/NOAA for operations in this frequency band.⁶⁶

23. The 2200-2290 MHz band is allocated exclusively for Federal use in the United States and is heavily used by a number of Federal agencies, including NASA for the NASA Tracking and Data Relay Satellite Service, DOC/NOAA for various meteorological satellites, and DoD for the Air Force space ground link subsystem. As discussed above, Kinéis has withdrawn its request for U.S. market access in the 2200-2290 MHz band and has stated that it will not conduct operations using the 2200-2290 MHz frequency band using earth stations located within the United States.⁶⁷ We note, however, that Kinéis has committed to completing coordination of any operations in this band using earth stations located outside the United States with U.S. government agencies.⁶⁸

D. Orbital Debris Matters

24. Kinéis submitted a detailed description of its orbital debris mitigation plan covering all of its proposed satellites.⁶⁹ We requested clarification on a number of matters, including the scope of Kinéis's operations utilizing propulsion, the accuracy with which orbital parameters will be maintained, the number of satellites and collision risk, the reliability of deployment and collision risk for a satellite that does not deploy correctly, and Kinéis's timeframe for submitting final orbital debris information.⁷⁰ Kinéis provided information to answer most of our questions.⁷¹ However the accuracy with which orbital parameters will be maintained and the collision risk with objects greater than 10 cm have not been finalized.⁷² Kinéis stated it will submit a revised orbital debris assessment report in late 2020 and a final orbital debris assessment report in the third quarter of 2021.⁷³ Neither of these documents have been submitted yet. We therefore condition this grant on submission and approval of a modification application to include a complete orbital debris mitigation plan, responsive to all elements of the

⁶⁵ See *infra* para. 28.

⁶⁶ See *infra*. para. 36.

⁶⁷ See Kinéis December 2020 Letter.

⁶⁸ See *infra*. para. 45.

⁶⁹ Kinéis Petition, Orbital Debris Assessment Report.

⁷⁰ See Letter from Jose P. Albuquerque, Chief, Satellite Division, to David S. Keir, Counsel to Kinéis, IBFS File No. SAT-PDR-20191011-00113 (dated Dec 11, 2019).

⁷¹ See Letter from David S. Keir, Counsel to Kinéis, to Jose P. Albuquerque, Chief, Satellite Division, IBFS file no. SAT-PDR-20191011-00113 (dated Jan 13, 2020) (Kinéis Orbital Debris Supplement).

⁷² *Id.* at 2, 4.

⁷³ *Id.* at 2.

Commission's rules, prior to commencing service in the United States.⁷⁴ We also note that the Commission recently updated its orbital debris rules and initiated a Further Notice of Proposed Rulemaking.⁷⁵ The Kinéis system will be subject to any applicable rules and policies adopted in that proceeding.

E. Schedule S Waiver

25. In addition to the waivers of the U.S. Table of Frequency Allocations discussed above, Kinéis seeks waiver of section 25.114(c)(4)(vi)(B).⁷⁶ This section specifies that the antenna beam contours to be plotted on Schedule S "should be plotted on an area map with the beam depicted on the surface of the Earth with the space stations' peak antenna gain pointed at nadir to a latitude and longitude within the proposed service area," and "the contours should be plotted at 2 dB intervals down to 10 dB below the peak gain and at 5 dB intervals between 10 dB and 20 dB below the peak gain."⁷⁷ Due to the specific design of Kinéis's satellite system, the nadir is the minimum antenna gain, and therefore it is impossible for Kinéis to provide the peak antenna gain at nadir.⁷⁸ Kinéis has provided antenna beam contours in dB above nadir and requests waiver of the Commission's rules, as necessary, to accept the antenna beam contours as provided.⁷⁹

26. We grant Kinéis a waiver of section 25.114(c)(4)(vi)(B). Given that Kinéis is unable to provide its system's antenna beam contour to the exact letter of the rule, and given that Kinéis has implemented an alternative solution to provide the necessary information to the Commission, we agree with Kinéis that accepting the beam contours as provided will allow for a full and appropriate review of the petition without undermining the purpose of the Commission's Rules.⁸⁰

IV. ORDERING CLAUSES

27. Accordingly, IT IS ORDERED that Kinéis's Petition for Declaratory Ruling to access the U.S. market using the 399.9-400.05 MHz, 400.15-401 MHz, and 401-403 MHz bands, and for purposes of monitoring designated channels in the 156.7625-162.0375 MHz band, is GRANTED pursuant to section 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. § 303(r), and section 25.137(c), of the Commission's rules, 47 CFR § 25.137(c).

28. IT IS FURTHER ORDERED that Kinéis may not commence operations in the U.S. market in the 400.15-401 and 401-403 MHz band until it has completed coordination for that specific frequency band with the National Telecommunications and Information Administration for federal frequency assignments in the Government Master File (GMF).

29. IT IS FURTHER ORDERED that Kinéis must comply with all existing and future space station coordination agreements reached between France and other administrations. In the absence of a coordination agreement, such communications must comply with applicable provisions of the ITU Radio Regulations.

30. IT IS FURTHER ORDERED that Kinéis may not provide voice services in the 399.9-400.05

⁷⁴ See also Letter from David S. Keir, Counsel to Kinéis, to Marlene H. Dortch, Secretary, FCC (filed Nov. 10, 2021).

⁷⁵ See *Mitigation of Orbital Debris in the New Space Age*, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd 4156 (2020).

⁷⁶ Kinéis Petition, Waiver Requests at 6; 47 CFR § 25.114(c)(4)(vi)(B).

⁷⁷ 47 CFR § 25.114(c)(4)(vi)(B).

⁷⁸ Kinéis Petition, Technical Annex at 5, Waiver Requests at 6.

⁷⁹ *Id.*, Waiver Request at 6.

⁸⁰ Kinéis Petition, Waiver Requests at 6.

MHz and 400.15-401 MHz bands, 47 CFR § 25.142(b)(1).

31. For operations in the 400.15-401 MHz (space-to-Earth) band, Kinéis must comply with the applicable pfd limits established in Appendix 5, Annex 1 of the ITU Radio Regulations.

32. For operations in the 400.15-401 MHz (space-to-Earth) and 401-403 MHz (Earth-to-space) bands, Kinéis must not exceed the long-term interference criteria specified in Table 2 (Type C) of Recommendation ITU-R RS.1263-2 in order to protect Department of Commerce/National Oceanic and Atmospheric Administration radiosondes operations in the United States.

33. Kinéis's operations in the 156.7625-162.0375 MHz band must comport with the International Table of Frequency Allocation footnotes 5.228, 5.228C, and 5.228D, and United States Table of Frequency Allocations footnote US52, 47 CFR § 2.106, footnotes 5.228, 5.228C, 5.228D, and US52, and with the following requirements and conditions:

- a. Kinéis's operations must comport with the requirements on unauthorized publication or use of communications in section 705 of the Communications Act of 1934, as amended. 47 U.S.C. § 605.
- b. Reception in the 156.7625-162.0375 MHz band (except for reception in the 156.7625-156.7875 MHz, 156.8125-156.8375 MHz, 161.9625-161.9875 MHz, and 162.0125-162.0375 MHz bands) is on an unprotected basis.
- c. Kinéis's operations in the 156.7625-162.0375 MHz band must be in accordance with any Commission rulemakings subsequent to the release of this market access grant that implement any new domestic allocations or service rules for these bands.
- d. This U.S. market access grant does not "authorize" the applicant with respect to the practices prohibited in section 705 of the Communications Act or in related provisions of chapter 119, Title 18, United States Code.

34. Kinéis must submit and obtain the Commission's approval of a modification containing a complete orbital debris mitigation plan, responsive to all elements of the Commission's rules, prior to starting service to the United States, as discussed in paragraph 24. 47 CFR § 25.114(d)(14).

35. IT IS FURTHER ORDERED that Kinéis's grant of U.S. market access is subject to the following requirements and conditions:

- a. Kinéis must comply with time sharing requirements with Department of Defense satellites for its operations in the 400.15-401 MHz band, 47 CFR § 25.260.
- b. Kinéis must establish a 24-hour per day contact person and telephone number so that claims of harmful interference into Department of Defense and Department of Commerce/National Oceanic and Atmospheric Administration earth stations and other operational issues can be reported and resolved expeditiously. This contact information must be filed with the Commission three months prior to launch of Kinéis's first satellite.

36. IT IS FURTHER ORDERED that prior to commencing operations in the U.S. market in the 400.15-401 MHz (space-to-Earth) band, Kinéis must certify that it has completed a coordination agreement with the Department of Commerce/National Oceanic and Atmospheric Administration for operations in this frequency band. The point of contact for coordination is David Franc, david.franc@noaa.gov.

37. IT IS FURTHER ORDERED that prior to commencing operations in the U.S. market in the 400.15-400.505 MHz and 400.645-401 MHz bands, Kinéis must certify that it has completed a coordination agreement with Orbcomm for operations in these frequency bands. Absent a coordination agreement, Kinéis must file a modification demonstrating that such operations will not interfere with Orbcomm, and Kinéis may not commence operations in these bands until grant of any modification application.

38. IT IS FURTHER ORDERED that, in the absence of a coordination agreement among the operators of systems in the 400 MHz Processing Round that have been licensed or granted access to the U.S. market, the available spectrum in the 399.9-400.05 MHz and 400.15-401 MHz bands will be divided as provided in 47 CFR § 25.157.

39. IT IS FURTHER ORDERED that, if a division of spectrum occurs, Kinéis must comply with the requirements of section 25.157 for band selection and notification, 47 CFR § 25.157.

40. IT IS FURTHER ORDERED that Kinéis must comply with ITU Radio Regulation No. 5.260A, as modified by WRC-19, regarding the maximum e.i.r.p. limits for MSS earth stations in the 399.9-400.05 MHz band, subject to any limit that may be adopted in future Commission rulemakings

41. IT IS FURTHER ORDERED that Kinéis's earth stations operating in the 401-403 MHz band must operate at or below the e.i.r.p. limit specified in ITU Radio Regulation No. 5.264A, as modified by WRC-19, subject to any limit that may be adopted in future Commission rulemakings.

42. IT IS FURTHER ORDERED that this market access grant and any earth station licenses granted in the future are subject to modification to bring them into conformance with any applicable rules and policies adopted by the Commission in the future, including *Mitigation of Orbital Debris in the New Space Age*, Report and Order and Further Notice of Proposed Rulemaking 35 FCC Rcd 4156 (2020).

43. IT IS FURTHER ORDERED that we waive the United States Table of Frequency Allocations, 47 CFR sections 2.102 and 2.106, with respect to reception by the Kinéis space stations in the following frequency bands: 157.1875-157.3375 MHz and 161.7875-161.9375 MHz (VDE-SAT); and 161.9375-161.9625 MHz (ASM 1), and 161.9875-162.0125 MHz (ASM 2) frequency bands; however, reception in these bands is on an unprotected basis. 47 CFR §§ 2.106, 2.102.

44. IT IS FURTHER ORDERED that Kinéis's request for a waiver of the United States Table of Frequency Allocations, 47 CFR section 2.106, footnote US384, to conduct Earth-to-space data collection system operations in the 401-403 MHz band, is granted. 47 CFR § 2.106, footnote US384. Kinéis' operations in this frequency band are on an unprotected basis, and Kineis must immediately terminate these operations upon notification of harmful interference. These operations do not have coordination priority with respect to overlapping frequency operations that may be authorized by the Commission in the future.

45. IT IS FURTHER ORDERED that Kinéis's request for a waiver of the United States Table of Frequency Allocations, 47 CFR section 2.106, to conduct data and TT&C downlink operations in the 2200-2290 MHz band is DISMISSED AS MOOT. Kinéis must coordinate its non-U.S. earth station operations in this band with U.S. Federal agencies.

46. IT IS FURTHER ORDERED that Kinéis's request for a waiver of section 25.114(c)(4)(vi)(B) is granted. 47 CFR § 25.114(c)(4)(vi)(B).

47. IT IS FURTHER ORDERED that this market access grant IS SUBJECT to the following requirements:

- a. Kinéis must post a surety bond in satisfaction of 47 CFR §§ 25.165(a)(1) & (b) no later than **December 18, 2021**, and thereafter maintain on file a surety bond requiring payment in the event of a default in an amount, at minimum, determined according to the formula set forth in 47 CFR § 25.165(a)(1); and
- b. Kinéis must launch 50 percent of the maximum number of proposed space stations, place them in the assigned orbits, and operate them in accordance with this grant no later than **November 18, 2027**, and must launch the remaining space stations necessary to complete its authorized service constellation, place them in their assigned orbits, and operate them in accordance with the market access grant no later than **November 18, 2030**. 47 CFR § 25.164(b).
- c. Failure to post and maintain a surety bond will render this authorization null and void

automatically, without further Commission action. Failure to meet the milestone requirements of 47 CFR § 25.164(b) may result in Kinéis's market access grant being reduced to the number of satellites in use at the milestone date. Failure to comply with the milestone requirements of 47 CFR § 25.164(b) will also result in forfeiture of Kinéis's surety bond. By **December 3, 2027**, Kinéis must either demonstrate compliance with this milestone requirement or notify the Commission in writing that the requirement was not met. 47 CFR § 25.164(f).

48. IT IS FURTHER ORDERED that Kinéis is afforded 30 days from the date of release of this action to decline this grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary