

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

In the Matter of

Amendment of Application of The Global)	File Nos.: SES-LIC-20171219-01341
Foundation for Ocean Exploration for a)	and SES-AMD-_____
Blanket License To Operate a Network of)	Call Sign: E170213
Earth Stations Onboard Vessels (“ESVs”))	
and Fixed Earth Stations)	

Amendment of Application for Blanket License

The Global Foundation for Ocean Exploration (“GFOE”) hereby amends its pending application for a blanket license to operate a network of earth stations onboard vessels (“ESVs”) and fixed Ku-band earth stations (*see* File No. SES-LIC-20171219-01341, Call Sign E170213).

In this amended application, GFOE restates its earlier request for a blanket license, while also updating certain information and adding a new ESV terminal type. The proposed operations will support GFOE’s research and ocean exploration activities and will serve the public interest by enabling real-time sharing of research and scientific data with government and academic institutions.

I. DISCUSSION

As described herein and in the amended FCC Form 312 Schedule B, GFOE seeks to conduct Ku-band ESV operations in U.S. territorial and adjacent international waters, as well as C-band ESV operations beyond 200 km from the baseline of the United States and U.S.-licensed fixed service off-shore installations, consistent with the Commission’s ESV rules.¹ GFOE also seeks to operate fixed Ku-band earth stations at locations throughout the United States.

¹ *See generally* 47 C.F.R. §§ 25.221 and 25.222.

GFOE will operate the following ESV and Ku-band earth station antennas, which have been previously authorized by the Commission for similar operations:

- 5 Sea Tel Model 4006 Ku-band ESVs (ESV-1);²
- 5 Dual-Band Sea Tel Model 9711 C/Ku-band ESVs (ESV-2 and ESV-3);³ and
- 5 Prodelin Model 1244 Ku-band VSATs (REMOTE-1).⁴

GFOE's proposed operations are described more fully below.

A. ESV Operations

GFOE will operate each of the ESV terminals consistent with the Commission's C-band and Ku-band ESV requirements, including: (i) maintaining off-axis EIRP spectral density ("ESD") within the levels set forth in the applicable FCC masks; (ii) maintaining a pointing accuracy of 0.2° or better; (iii) automatic cessation of emissions within 100 ms if pointing offset exceeds 0.5°; and (iv) not resuming transmissions until pointing accuracy is within 0.2°. ⁵ The attached FCC Form 312 Schedule B and radiation hazard studies contain updated operational parameters that comply with the Commission's off-axis ESD masks in Sections 25.221(a)(1) and 25.222(a)(1) of the Commission's rules, and the ESV terminals will operate fully consistent with the Commission's two-degree spacing requirements at all times.

In addition to these fundamental ESV operational characteristics, GFOE will operate the ESV terminals in accordance with the geographic limitations and coordination provisions in the

² See, e.g., RigNet SatCom, Inc., File No. SES-MOD-20170825-00958, Call Sign E980235.

³ *Id.* Consistent with past practice, the Ku-band and C-band operational characteristics of the dual-band Sea Tel Model 9711 ESV are described independently in the application as ESV-2 and ESV-3, respectively.

⁴ See, e.g., Tampnet, File No. SES-LIC-20101213-01543, Call Sign E100138.

⁵ See generally 47 C.F.R. §§ 25.221 and 25.222.

Commission's rules designed to protect other users of the spectrum. In the Ku-band, GFOE will not operate the ESVs: (i) in the 14.0-14.2 GHz band within 125 km of NASA TDRSS facilities in Guam, White Sands, New Mexico and Blossom Point, Maryland; or (ii) in the 14.47-14.5 GHz band within 45 km of the radio observatory in St. Croix, Virgin Islands or Mauna Kea, Hawaii, or within 90 km of the Arecibo Observatory in Puerto Rico, without first coordinating with the National Telecommunications Information Administration ("NTIA") through NASA and the National Science Foundation, respectively. In the event GFOE seeks to operate the ESV terminals within the above-specified bands and distances, it will coordinate such operations.

Moreover, GFOE does not seek authority for C-band operations within 200 km from the baseline of the United States or within 200 km from U.S.-licensed fixed service offshore installations. Consistent with Commission policy, in the event GFOE seeks to operate the ESV terminals at specific port locations or routes within 200 km of the U.S. coastline or a U.S.-licensed offshore fixed service installation, it will perform the appropriate coordination prior to commencing operations and update the Commission accordingly. Until such time, however, the Commission may permit GFOE to operate the subject ESV terminal beyond 200 km from the U.S. coast and offshore fixed service facilities consistent with existing policies and rules.

B. Fixed Ku-Band Operations

GFOE also seeks to operate the Prodelin Model 1244 Ku-band terminal at fixed locations throughout the United States to support its ongoing scientific research and data sharing operations. The proposed Ku-band terminal is compliant with the relevant off-axis EIRP spectral density masks adopted by the Commission⁶ and thus is eligible for routine processing under the

⁶ See 47 C.F.R. § 25.218(f).

Commission's rules.⁷ In addition to the FCC Form 312 Schedule B, which contains the relevant information relating the technical parameters of the proposed Ku-band terminal operations, GFOE provides a radiation hazard study for the Prodelin 1244 Ku-band terminal remote.

C. Permitted List Authority and Hub Earth Stations

GFOE seeks authority to operate the fixed Ku-band and ESV terminals with any U.S.-licensed satellite and non-U.S.-licensed satellites on the Commission's Permitted Space Station List.⁸ The ESVs and Ku-band terminals will communicate with various licensed hub earth stations located throughout United States depending on the serving satellite.

Pursuant to multiple managed service agreements, network access for individual fixed Ku-band and ESV terminals will be managed by the serving satellite operator, subject to GFOE's ultimate direction and control. As provided in Form 312 Schedule B, GFOE will have a 24/7 point of contact located in the United States with the authority to cease terminal transmissions regardless of the serving hub station.

D. Public Interest Considerations

Grant of this application will serve the public interest by enabling the real-time sharing of scientific data with government and academic institutions and empowering the scientific community with the tools and expertise required to explore deep-sea and marine environments. The ESVs will transmit data and video collected by underwater robots and GFOE scientists and engineers onboard research vessels to fixed Ku-band terminal locations throughout the United States, helping us to better understand, interpret and protect the vital ocean environment.

⁷ See 47 C.F.R. § 25.115(c)(1)(i).

⁸ See 47 C.F.R. §§ 25.221(b)(7), 25.222(b)(7) & 25.115(k)(1).

II. CONCLUSION

Based on the foregoing, GFOE respectfully requests that the Commission grant the pending application for a blanket license to operate a network of ESVs and fixed Ku-band earth stations, as amended, at the earliest practicable time.