

September 22, 2021

Re: ICEYE US, Inc., IBFS File Nos. SAT-LOA-20210212-00021, SAT-AMD-2021083100119; Call Sign S3082

ICEYE US, Inc. (ICEYE) hereby responds to the questions asked by the Commission its September 21, 2021 letter regarding the above-referenced application.

1. ICEYE states that “each satellite will naturally decay 2.683 years after the discontinuation of station-keeping, resulting in a total orbital lifetime of 5.683 years.” ICEYE also certifies that “[t]he total in-orbit lifetime for any individual satellite will be six years or less.” However, the DAS Survivability Analysis Logs indicate that it will take the spacecraft approximately nine years to re-enter the atmosphere. In combination with the three-year operational lifetime indicated by ICEYE, this results in an approximately twelve-year in-orbit lifetime for each satellite. Please (1) explain this discrepancy; (2) provide a detailed description of the post mission disposal/orbit lowering procedures; and (3) indicate whether, for later spacecraft that are launched, ICEYE will discontinue station-keeping before the three-year mission timeframe in order to operate within the six-year license term, which begins when the first satellite is placed in its authorized orbit and has begun operating.

ICEYE clarifies its previous response about natural decay. Each satellite has an operational on-orbit lifetime of approximately 3 years. At the end of each satellite’s operational life, the ICEYE MOC (Mission Operations Center) will command the satellite to discontinue all station-keeping and the thrusters will be used to commence a decaying orbit. The satellites will be disposed of using the atmospheric reentry method, depending solely on atmospheric drag.

ICEYE plans to launch all six of its satellites within the first three years of the six-year license term.

In all events, as ICEYE stated on page 15 in Exhibit B (Technical Annex) to its application, de-orbiting of all satellites will be completed before expiration of the six-year license term.

2. ICEYE states that “[p]ropulsion will be utilized for station-keeping and collision avoidance maneuvers.”⁶ ICEYE also provides that “[t]he expected station-keeping tolerance of the space stations is +/- 2 km of operational altitude.” Please provide the inclination station-keeping tolerance, if any inclination maintenance is planned.

ICEYE will not perform inclination maintenance. ICEYE will only perform station-keeping to maintain ground track on the equator.

3. ICEYE provided a description of the operational strategies that the ICEYE satellites will use to avoid collision with the International Space Station (ISS). Please update the description to provide additional information regarding the operational strategies that will be utilized to avoid collision with other habitable spacecraft, including the Chinese space station.

ICEYE will use services from two private entities, SpaceNav and SpaceTrack, to handle collision avoidance. ICEYE will also coordinate with the 18th Space Control Squadron, USSTRATCOM and NORAD for handling conjunction avoidance events.

4. ICEYE states that “[t]he anticipated orbital parameters and expected range for the satellites are set forth in the table below. ICEYE will provide exact operational inclination angle and elevation values prior to launch of each satellite.” If these parameters have been determined for the first satellite launch, please provide that information. If not, please provide a timeline of when that information will become available to the Commission.

ICEYE will provide the exact operational parameters to the Commission within thirty (30) days of the launch of its first satellite.

5. Please provide an update on coordination efforts with federal spectrum users regarding requested operations in the S-band and the X-band.

ICEYE has completed coordination with the United States Air Force.

ICEYE has completed coordination with NOAA. NOAA has proposed, and ICEYE has agreed to accept, the following condition:

ICEYE US, Inc. 8025 – 8400 downlink to Inuvik and Svalbard earth stations transmissions must cease when any of the ICEYE US, Inc. satellites come within a 2-degree conjunction angle of the Suomi-NPP satellite when it is transmitting to its NOAA earth stations in Fairbanks and Svalbard. The conjunction angle is measured from the boresight of the NOAA earth station antenna.

ICEYE has worked actively with NASA, and has provided all of the detailed information requested by NASA, which is now finalizing its review.

6. ICEYE provided a list of ground stations outside of the United States with which the ICEYE satellites will communicate, in addition to the earth station in Irvine, CA. Please provide a complete list of the coordinated earth stations with which ICEYE will communicate, both inside and outside of the United States, if this list has changed since it was initially provided. If not yet available, please provide a timeline of when that information will become available to the Commission.

ICEYE has not yet constructed ground station facilities in the United States. Prior to construction and operation of such ground station facilities, ICEYE will file the appropriate earth station application with the Commission.

ICEYE provided a full list of the eight (8) ground earth stations that it will utilize in its June 1, 2021 response to the letter filed by Maxar Technologies, Inc. There are no changes to this list.

7. In a response to the comments filed by Maxar, ICEYE writes, “ICEYE suggests that, in the future, if Maxar requires further information, that Maxar contact ICEYE directly. ICEYE would be pleased to work directly with Maxar to provide any non-confidential information necessary for Maxar to evaluate the compatibility of ICEYE’s planned operation.” Please provide an update as to whether ICEYE has been working with Maxar regarding Maxar’s concerns.

ICEYE addressed Maxar’s concerns in ICEYE’s June 1, 2021 letter. Maxar has not contacted ICEYE with any further concerns.

Please submit the requested information by **October 6, 2021**. *See* 47 CFR § 25.112(c).

Sincerely,

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