



Federal Communications Commission  
Washington, D.C. 20554

September 21, 2021

**VIA ELECTRONIC MAIL**

Robert S. Koppel  
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Re: ICEYE US, Inc., IBFS File Nos. SAT-LOA-20210212-00021, SAT-AMD-20210831-00119; Call Sign S3082

Dear Mr. Koppel:

On August 31, 2021, ICEYE US, Inc. (ICEYE) filed IBFS File No. SAT-AMD-20210831-00119, amending its application in IBFS File No. SAT-LOA-20210212-00021 requesting authority to launch and operate six satellites that would operate in the Earth-Exploration Satellite Service (EESS), conducting synthetic aperture radar (SAR) imaging.<sup>1</sup> Please provide the following additional information in order to assist in the Commission's review of ICEYE's application, as amended:

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."<sup>2</sup> ICEYE also certifies that "[t]he total in-orbit lifetime for any individual satellite will be six years or less."<sup>3</sup> However, the DAS Survivability Analysis Logs indicate that it will take the spacecraft approximately nine years to re-enter the atmosphere.<sup>4</sup> 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.<sup>5</sup>

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<sup>1</sup> This application was filed pursuant to the small satellite licensing process, 47 CFR § 25.122.

<sup>2</sup> IBFS File No. SAT-LOA-20210212-00021, ICEYE Exhibit C – Orbital Debris Assessment Report at 7.

<sup>3</sup> IBFS File No. SAT-LOA-20210212-00021, ICEYE Legal Narrative at 5.

<sup>4</sup> IBFS File No. SAT-LOA-20210212-00021, ICEYE Exhibit 1: DAS Survivability Analysis Logs (filed Apr. 1, 2021).

<sup>5</sup> 47 CFR § 25.121(d)(3).

2. ICEYE states that “[p]ropulsion will be utilized for station-keeping and collision avoidance maneuvers.”<sup>6</sup> ICEYE also provides that “[t]he expected station-keeping tolerance of the space stations is +/- 2 km of operational altitude.”<sup>7</sup> Please provide the inclination station-keeping tolerance, if any inclination maintenance is planned.
3. ICEYE provided a description of the operational strategies that the ICEYE satellites will use to avoid collision with the International Space Station (ISS).<sup>8</sup> 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.<sup>9</sup>
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.”<sup>10</sup> 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.
5. Please provide an update on coordination efforts with federal spectrum users regarding requested operations in the S-band and the X-band.<sup>11</sup>
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.<sup>12</sup> 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.
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

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<sup>6</sup> IBFS File No. SAT-LOA-20210212-00021, ICEYE Exhibit C – Orbital Debris Assessment Report at 3.

<sup>7</sup> IBFS File No. SAT-LOA-20210212-00021, ICEYE Response to Follow-Up Questions at 2 (filed Apr. 1, 2021).

<sup>8</sup> See IBFS File No. SAT-LOA-20210212-00021, ICEYE Response to Follow-Up Questions at 3 (filed Apr. 1, 2021); IBFS File No. SAT-LOA-20210212-00021, ICEYE Further Supplement at 1 (filed Apr. 15, 2021).

<sup>9</sup> See 47 CFR § 25.122(d)(5).

<sup>10</sup> IBFS File No. SAT-AMD-20210831-00119, ICEYE Technical Annex at 1.

<sup>11</sup> See IBFS File No. SAT-LOA-20210212-00021, ICEYE Legal Narrative at 4.

<sup>12</sup> IBFS File No. SAT-LOA-20210212-00021, ICEYE Response to Maxar Technologies Inc. at 2 (filed June 1, 2021).

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."<sup>13</sup> Please provide an update as to whether ICEYE has been working with Maxar regarding Maxar's concerns.

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

Sincerely,

*Karl A. Kensinger*

Karl A. Kensinger  
Chief, Satellite Division  
International Bureau

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<sup>13</sup> *Id.* at 2-3.