EXHIBIT A – NARRATIVE EXHIBIT & TABLE OF CONTENTS

1.0 - Exhibit Table of Contents

2.0 - Description of Application

Pursuant to Section 5.61(a)(1) of the Federal Communications Commission's ("FCC" or "Commission") Rules, the Ronald G. Eaglin Space Science Center ("SSC") at Morehead State University ("MSU"), provides this narrative statement to justify its request for Special Temporary Authorization ("STA") to transmit 276 kHz and 250 kHz emissions Earth-to-space centered at 2035.594 MHz to Intuitive Machines' Nova-C lunar lander, supporting the Intuitive Machines 2 ("IM-2") mission.[1] The SSC seeks STA for a period of six (6) months beginning as soon as possible but not later than January 6, 2025.[2]

Consistent with Commission Rules, and as discussed in greater detail below, "good cause" exists to support grant of the requested STA.[3] The SSC provided critical communications support to the historic IM-1 mission, in which the first iteration of Intuitive Machines' NOVA-C lander touched down on the surface of the Moon, completed a variety of experiments, and established communications links with ground networks on Earth. To build on this achievement, the SSC will support the IM-2 mission in transporting and placing the Nova-C lander near the south pole of the Moon to conduct numerous groundbreaking scientific and commercial experiments. The IM-2 mission will continue to advance the longstanding U.S. policy goal of establishing a permanent presence on the Moon, furthering U.S. leadership in outer space exploration and scientific discovery. This experiment will not prejudice or represent an interference threat to any other authorized spectrum use.

[1] 47 CFR § 5.61(a)(1). Please note that prior operations involving the same 21-meter earth station at the SSC were authorized under Experimental Licensing System Call Sign WW9XBA (File Number 1661-EX-ST-2023) as well as for the IM-1 mission, ICFS Call Sign S3084. This application has been filed to solely support the IM-2 mission and evaluation of the Nova-C lunar lander.

[2] *Id.*

[3] 47 CFR § 5.61(a)(2).

Background

The SSC is a state-of-the-art research facility encompassing 45,000 square feet of floor space and includes a control center for separate 21-meter and 12-meter satellite ground station antennas supporting various scientific missions.[4] The SSC also contains radiofrequency and electronics laboratories, anechoic chambers that mimic the electromagnetic environment of space, a rooftop antenna test range, and a space systems development laboratory.

The SSC seeks the instant STA to transmit commands from the Nova Control Center at Intuitive Machines' Houston, Texas headquarters to the Nova-C lunar lander.[5] The Nova-C is scheduled to launch on February 27, 2025, on a Falcon 9 rocket from Cape Canaveral. The lunar lander will undertake a translunar maneuver to put it in a 100 km lunar orbit for approximately 1-3 days. The lander will subsequently touch down on the Moon near the south pole, undertaking a series of experiments and tests over 14-days to support various National Aeronautics and Space Administration ("NASA") and commercial initiatives before the onset of the lunar night concludes the mission.

Throughout the duration of the Nova-C lunar lander's experiments on the Moon, the SSC's 21-meter ground station will transmit and receive communications with the lander in S-band frequencies.[6] Such communications will include telemetry, tracking and command ("TT&C") signals, as well as support for the various scientific and commercial payloads on the lander, including: the Polar Resources Ice Mining Experiment 1 drilling package ("PRIME-1"); a Nokia Long Term Evolution ("LTE") transceiver and related equipment; the Micro-Nova Hopper vehicle designed by Intuitive Machines under a NASA contract; a Lunar Outpost rover; a commercial edge computing device; a commercial rover manufactured by Dymon; and various cameras used to capture images during transit and from the lunar surface.

Justification for STA

Consistent with the standards set forth in Section 5.61 of the FCC's rules, grant of STA is appropriate in the instant circumstances and serves the public interest.

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[4] NASA has designated MSU a Space Grant University, and the SSC serves as a cornerstone for MSU's space-based research programs. For additional information concerning NASA Space Grant institutions, please visit the National Space Grant and Fellowship Project portal at: https://www.nasa.gov/stem/spacegrant/home/index.html (last visited November 26, 2024).

[5] Intuitive Machines and NASA have selected a number of geographically diverse ground stations to support the IM-2 mission. None of the alternative ground stations supporting the mission fall under the FCC's jurisdiction.

[6] Intuitive Machines has applied for separate authority with respect to the transmission space-to-ground from the Nova-C lander. *See* ICFS File No. SAT-LOA-20240524-00112.

First, the proposed operations are appropriate under STA. No routine framework exists for authorizing Moon-based communications, and the tests themselves will last less than thirty-days.[7]

Second, the instant circumstances serve the public interest. The NOVA-C lander will carry payloads designed to search for water ice near the Moon's south pole, deploy innovative rovers to traverse the lunar surface, and test equipment that will form the foundation of future lunar communications networks. As the sole U.S. ground station communicating with the NOVA-C lander, the SSC will provide critical support to all these functions. Like the historic IM-1 mission, IM-2 will conduct novel and consequential experiments, supporting NASA's Artemis and Commercial Lunar Payload Services programs and laying the groundwork for a human return to the Moon.[8]

Third, favorable treatment of the instant request for STA will not prejudice any third-party or create harmful interference to other authorized spectrum users. The SSC does not seek a permanent license to transmit in the S-band and acknowledges that STA operations will occur on a sufferance basis. The involved frequencies are allocated on a primary basis for federal use, and pre-coordination with other federal agencies for the IM-2 mission has occurred through the NASA Spectrum Management Program, which should facilitate an expedient and favorable inter-agency coordination process through the Interdepartment Radio Advisory Committee. The SSC also appreciates that non-federal allocations exist for broadcast and broadcast auxiliary services in the involved frequencies, but a search of publicly searchable FCC databases does not reflect such operations in close proximity to the 21-meter antenna.[9] Nevertheless, the SSC will coordinate with the appropriate regional point of contact for the Society of Broadcast Engineers before commencing service if required in any forthcoming grant of authority.

In the unlikely event that interference does occur from the SSC's 21-meter ground station, a "kill switch" contact has been provided in **Exhibit B** with the ability to mute uplink transmissions promptly.

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[7] STA is requested for a period of six (6) months to ensure that separate authority is not required if the launch date for the IM-2 mission slips and needs to be rescheduled to align with a subsequent lunar day.

[8] *See New Space Policy Directive Calls for Human Expansion Across Solar System*, available at: https://www.nasa.gov/press-release/new-space-policy-directive-calls-for-human-expansion-across-solar-system (deeming the creation of a "U.S.-led, integrated program with private sector partners for a human return to the Moon, followed by missions to Mars and beyond" one of NASA's highest priority objectives for the next decade") (last visited November 26, 2024).

[9] The SSC undertook a search of local and national licenses in the 2034–2036 MHz on December 2, 2024 utilizing the Universal Licensing System, but was unable to identify licensees in a 20 km radius around the 21-meter antenna or elsewhere in Rowan County.