### MEMORANDUM OF UNDERSTANDING

### BETWEEN

## THE DEPARTMENT OF DEFENSE

# AND

## THE DEPARTMENT OF ENERGY

## FOR

### SPACE-RELATED RESEARCH AND TECHNOLOGY COLLABORATION

This is a Memorandum of Understanding (MOU) between the Department of Defense (DoD) and the Department of Energy (DOE) to affirm their mutual interest in continuing and enhancing their longstanding partnership on space-related research and technology development in support of U.S. national space policy goals. When referred to collectively, the DoD and the DOE are referred to as the "Parties" and individually as a "Party."

1. BACKGROUND: The DoD and DOE have worked together for decades to advance space science and technology development in support of U.S. national space policy goals and national security objectives. Pursuant to the 2020 U.S. National Space Policy and supporting Space Policy Directives, in a meeting of the Parties on October 22, 2020, senior leaders from the DoD and DOE agreed to pursue improved communication and cooperation on space technology priorities where mutually beneficial to the Parties. As such, this MOU is created as a non-binding agreement to memorialize the Parties' intent to pursue collaborative interagency efforts on space-related programs of mutual interest.

2. AUTHORITIES: The DOE enters into this MOU under the authority of section 646 of the Department of Energy Organization Act (Pub. L. 95-91, as amended; 42 U.S.C. § 7256). The DoD enters into this MOU under the authority of 10 U.S.C. § 2358.

3. PURPOSE: The purpose of this MOU is to establish a framework to improve communication and collaboration on space-related research and technology priorities of mutual interest to the Parties. Initial areas for collaboration include, but are not limited to: propulsion and power in space (to include cis-lunar space); dual-use critical and emerging technologies related to industries of the future (e.g., artificial intelligence/machine learning (AI/ML), quantum information science, advanced communications networks, advanced manufacturing, future computing ecosystems, autonomous and remotely piloted vehicles; other areas of mutual interest between the Parties in the national security space arena (e.g., strengthening the U.S. national security space innovation base); and mutual scientific exchange and access between DoD and DOE research laboratories and facilities. 4. UNDERSTANDINGS OF THE PARTIES: To effectively and efficiently communicate and collaborate, the Parties agree to a governance framework consisting of an Executive Forum and any working groups appropriately chartered by the Executive Forum.

4.1. EXECUTIVE FORUM. The Executive Forum will consist of senior executive leaders from the principal DOE and DoD offices who hold sufficient authority within their respective organizations to fulfill the Executive Forum's mandate. The Executive Forum's principal representatives will be: for the Department of Defense, the Office of the Under Secretary of Defense for Research and Engineering; and for the Department of Energy, the Office of the Under Secretary for Energy, the Office of the Under Secretary for Science, and the Office of the Under Secretary for Nuclear Security/Administrator of the National Nuclear Security Administration.

4.1.1. Any decisions of the Executive Forum shall be by consensus of the principal representatives.

4.1.2. At the discretion of the Executive Forum's principal representatives, additional members from both Parties may be invited to participate as observers in specific Executive Forum meetings.

4.1.3. The Executive Forum shall meet at least semi-annually to implement this MOU and guide all activities of the working groups. Members of the Executive Forum will be designated by the principal representatives but, at a minimum, will include an Executive Forum Secretariat and the chairs of the working groups established by the Executive Forum.

4.2. EXECUTIVE FORUM SECRETARIAT. The Executive Forum Secretariat (the Secretariat) is an administrative function to coordinate upcoming Executive Forum agendas, arrange facilities and meeting support, and produce the meeting minutes and action items. The Secretariat will alternate between the DoD and DOE each year. The DoD will serve as the Secretariat the first year of the MOU.

4.3. WORKING GROUPS. The Executive Forum shall establish working groups, as required, and appoint an Executive Forum chair of each working group. Such working groups can be established as on-going ("standing" working groups) or duration-limited ("ad hoc" working groups). All working groups will require co-leads designated by the Executive Forum principal representatives and will develop a working group charter or terms of reference (TOR) for approval by the Executive Forum principal representatives. Members of all working groups will be federal employees identified in the respective working group charter or TOR and operate under the supervision of the working group co-leads. Any working groups will be defined such that their work will complement, and not interfere with, other projects or program-specific working groups of the Parties, or other interagency forums in which either Party is participating.

5. JOINT PROGRAMS: The improved collaboration between the Parties under this MOU may lead to future joint programs involving cost-sharing, cost-reimbursable, or other means of formal execution between the Parties, or laboratories or agencies under the Parties' purviews. Should

both Parties agree to enter into binding obligations for the purpose of executing a joint program, the Parties will negotiate and enter into Interagency Agreements or other appropriate arrangements and as permitted by and in accordance with law and the respective Parties' authorities, policies, and processes.

6. PERSONNEL: Each Party is responsible for all costs of its personnel, including pay and benefits, support, and travel. Each Party is responsible for supervision and management of its personnel.

7. GENERAL PROVISIONS:

7.1. POINTS OF CONTACT (POCs). The following POCs will be used by the Parties to communicate matters concerning this MOU. Each Party may change its POC upon reasonable notice to the other Party.

7.1.1. For the Department of Defense:

7.1.1.1. Director of Defense Director of Defense for Research and Engineering, Modernization, Office of the Under Secretary of Defense for Research and Engineering.

7.1.2. For the Department of Energy:

7.1.2.1. Executive Director - Office of Strategic Planning and Policy, Immediate Office of the Secretary of Energy.

7.2. CORRESPONDENCE. All correspondence to be sent and notices given pursuant to this MOU will be addressed to:

7.2.1. Office of the Under Secretary of Defense, Research and Engineering (USD(R&E)), The Pentagon, Washington DC, 20301, or via e-mail addressed to: osd.pentagon.ousd-re.mbx.communications@mail.mil.

7.2.2. Office of Strategic Planning and Policy, Immediate Office of the Secretary of Energy, 1000 Independence Ave SW, Washington DC, 20585 or via e-mail addressed to: DL-SP-1@hq.doe.gov.

7.3. FUNDS AND MANPOWER. This MOU neither documents nor provides for the exchange of funds or manpower between the Parties, nor does it make any commitment of funds or resources. No provision in this MOU will be interpreted to require obligation or payment of funds.

7.4. PREEXISTING ARRANGEMENTS. This MOU neither supersedes nor modifies other memoranda or agreements existing between the Parties, and does not limit or restrict the Parties from participating in similar activities or arrangements with other entities.

7.5. MODIFICATION OF MOU. This MOU may only be modified by the written agreement of the Parties, duly signed by their authorized representatives. This MOU will be reviewed no less often than every four years on the anniversary of its effective date.

7.6. DISPUTES. Any disputes relating to this MOU will be resolved by consultation between the Parties

7.7. TERMINATION OF UNDERSTANDING. This MOU may be terminated in writing at will by either Party.

7.8. ENTIRE UNDERSTANDING. It is expressly understood and agreed that this MOU embodies the entire understanding between the Parties regarding the MOU's subject matter, thereby superseding all prior understandings of the Parties with respect to such subject matter.

7.9. EFFECTIVE DATE. This MOU takes effect beginning on the day after the last Party signs.

7.10. EXPIRATION DATE. This MOU will remain in effect until superseded, rescinded or modified by written mutual agreement of both Parties.

**APPROVED:** 

FOR THE DEPARTMENT OF DEFENSE

FOR THE DEPARTMENT OF ENERGY:

HONORABLE DAVID L. NORQUIST Deputy Secretary of Defense

(Date) 202

See AHached Signature Sheet

HONORABLE MARK W. MENEZES Deputy Secretary of Energy

(Date)

Four-Year Review Due Date: [Enter date four years after last signature]

Four-Year Review completed by:

Signature and Name of Reviewer

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APPROVED:

FOR THE DEPARTMENT OF DEFENSE FOR THE DEPARTMENT OF ENERGY

Signature HONORABLE DAVID L. NOROUIST Deputy Secretary of Defense

MN Min Signature HONORABLE MARK W. MENEZES

Deputy Secretary of Energy

Date

Date

Four-Year Review Due Date

Four-Year Review Due Date

[Enter date four years after last signature]

Four-Year Review completed by:

Signature and Name of Reviewer

[Enter date four years after last signature]

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