

**Memorandum of Understanding  
Between  
the National Aeronautics and Space Administration  
and the Department of Energy  
Concerning  
Fission Surface Power**

**I. Authority and Parties**

The National Aeronautics and Space Administration (hereinafter referred to as "NASA") enters into this Memorandum of Understanding (hereinafter referred to as "MOU") in accordance with the National Aeronautics and Space Act, 51 U.S.C. § 20101, *et seq.* The Department of Energy (hereinafter referred to as "DOE") enters into this MOU in accordance with the Atomic Energy Act of 1954 as amended, 42 U.S.C. § 2011, *et seq.*, and the Department of Energy Organization Act (Pub. L. 95-91, as amended, 42 U.S.C. § 7256, *et seq.*). NASA and DOE may be individually referred to as a "Party" and are collectively referred to as the "Parties."

NASA and DOE have successfully worked together for over 50 years in space science applications, exploration, and technology development. This MOU confirms the agreement of the Parties to continue this longstanding partnership by working together in the conduct of research and development activities related to fission surface power (FSP) systems that can be used in exploration of the Moon and other NASA missions. Activities to implement this MOU will advance several DOE missions including: research and technology development (RTD) relating to the utilization of special nuclear material (SNM) and processes; the possession, use, and production of atomic energy and SNM; encouraging widespread participation in the development and utilization of atomic energy for peaceful purposes; and RTD relating to the integration of enabling technologies such as advanced sensors, robotics and remote systems, and artificial intelligence. (see e.g., Atomic Energy Act of 1954, as amended, §§ 3a, 3c, 3d, 31, and 32).

This MOU contains the general provisions and roles and responsibilities for collaboration between NASA and DOE for the development and flight preparation of a FSP system to be used by NASA and its contractors or partners, and for such other purposes as may be mutually agreed to in writing in the future for inclusion under the provisions of this MOU. "FSP system" as used in this MOU, includes aspects of the FSP system that constitute a nuclear facility per 10 C.F.R. Part 830. Nuclear fueled demonstrations of the FSP system are planned. The only other time nuclear fuel will be involved is immediately prior to launch when the fuel is integrated into the FSP system for flight. Activities to implement this MOU involving SNM and the development, construction, testing, and deployment of the FSP system will be undertaken pursuant the framework established by separate Interagency Agreement(s) (IAAs) supplemental to this MOU.

**II. Agency Responsibilities**

**A. NASA will:**

1. Award, fund, and manage the FSP system contract or partnership;

2. Establish the FSP system requirements and FSP system objectives to ensure space mission goals are met. NASA will incorporate applicable DOE requirements as part of the FSP system requirements and objectives;
3. Coordinate with DOE to implement the activities in this MOU to meet the requirements for both NASA and DOE, in a manner that allows each Party to manage its responsibilities in accordance with its own authorities and processes, and is consistent with applicable laws and requirements, including DOE's authority and responsibilities concerning nuclear material and nuclear activities;
4. Coordinate with DOE to ensure radioactive waste and radioactively contaminated waste generated during development, construction, testing, and deployment of the FSP system are managed in compliance with DOE's authorization;
5. Provide DOE with the necessary technical data and continuing technical support to conduct the required safety tests and analyses associated with satisfying the requirements for the DOE Safety Analysis Report(s) (SARs), DOE authorization, and the nuclear launch safety approval process;
6. Manage nuclear fuel and the FSP system in compliance with DOE's authorization, including SARs and other safety requirements identified by DOE, and provide information to assist DOE in its regulatory oversight responsibilities;
7. Provide overall space mission and FSP system programmatic authority;
8. Facilitate the transfer of nuclear material from DOE to a NASA contractor or partner, including for a nuclear ground demonstration for each contractor or partner and for final integration of fuel into the FSP system for flight;
9. Work with the appropriate government authorities and ensure NASA employees, and applicable NASA contractors and partners, comply with the radiological occupational and public health and safety procedures and criteria specified or otherwise approved by DOE for the fueled FSP system; and
10. Ensure that DOE has the same level of insight into the contractor or partner development, build, test and deployment activities of the FSP system that NASA does. NASA will ensure DOE findings are included in any corrective action plans required of the contractor or partner.

**B. DOE will:**

1. Provide authorization to NASA and its contractors or partners to possess SNM and to develop, build, test, deploy (launch and operate) an FSP system;
2. Except for any specific activities licensed by the Nuclear Regulatory Commission (NRC), provide regulatory oversight for activities involving SNM and the

development, construction, testing, and deployment of the FSP system in a manner that protects the health and safety of members of the public, workers, and the environment;

3. Provide SARs for the FSP system to support DOE authorization;
4. Provide design support for the FSP system to ensure compliance with applicable DOE requirements by NASA's contractors or partners;
5. Affirm with NASA as to the operational and flight readiness of the fueled FSP system with respect to nuclear safety, and participate in the nuclear launch safety approval process;
6. Provide approximately 400kgU total of high-assay low-enriched uranium (HALEU), in either metal or oxide form, for a nuclear ground demonstration for each contractor or partner and for final integration of fuel into the FSP system for flight;
7. Facilitate terrestrial operations (fuel transport and ground handling); and
8. Provide access to DOE subject matter expertise and DOE test facility usage for NASA and its contractors/partners, not to exceed 2 simultaneous ground tests.

### **III. Nuclear Hazards Indemnity**

The Parties will enter into one or more IAAs to implement activities covered by this MOU involving SNM and the development, construction, testing, and deployment of the FSP system. Inasmuch as these IAAs constitute a contract between DOE and NASA and provide for activities on behalf of DOE in furtherance of its missions, these IAAs will incorporate the provisions of the clause set forth in 48 C.F.R. 952.250-70, Nuclear Hazards Indemnity Agreement, for the purpose of extending the indemnification under section 170d of the Atomic Energy Act of 1954, 42 U.S.C. §2210(d), as amended (the Act), to NASA, its contractors and partners at any level, and any other person who might incur legal liability because of a nuclear incident arising from an activity under the IAAs. For purposes of the Nuclear Hazards Indemnity Agreement clause, the term "contract location" means the property and facilities owned and/or operated by NASA and its contractors or partners whereon the FSP system or subsystems are present. NASA agrees to accept any modification of the Nuclear Hazards Indemnity Agreement clause promulgated by DOE to implement the Act. The Nuclear Hazards Indemnity Agreement clause will be incorporated by operation of law into any contract or partnership agreement at any level undertaken to carry out the IAAs and NASA may direct the inclusion of the Nuclear Hazards Indemnity Agreement clause into any such contract or agreement.

### **IV. Additional Provisions**

- A. This MOU is not a funds obligation document. All activities pursuant to this MOU that require appropriated funds are subject to the availability of those funds, and no provision of this Agreement shall be interpreted to require obligation or payment of

funds in violation of the Anti- Deficiency Act (31 U.S.C. § 1341). Funding for the activities related to the FSP system included under subparagraphs II.A and II.B will be provided for under separate IAAs supplemental to this MOU, as required.

- B. Each Party will utilize its contract policies and procedures when contracting with others in furtherance of its undertakings under this MOU.

## **V. Terms of MOU**

- A. This MOU becomes effective upon the date of the last signature below (“Effective Date”) and will remain in effect for ten (10) years from the Effective Date, unless revised or extended by the Parties in writing. The Parties agree to meet at a reasonable time before expiration of this MOU to consider revising or extending the MOU.
- B. This MOU does not supersede nor modify other memoranda or agreements existing and active between the Parties, including the Memorandum of Understanding Between the National Aeronautics and Space Administration and the U.S. Department of Energy Regarding Energy- Related Civil Space Activities, signed October 19, 2020, and the Memorandum of Understanding Between the National Aeronautics and Space Administration and the Department of Energy Concerning Radioisotope Power Systems, signed October 31, 2016.
- C. Decisions on disclosure of information to the public under the Freedom of Information Act (5 U.S.C. §552) regarding projects and programs implemented under this MOU and supplemental IAAs will be made following consultation between the Parties.
- D. This MOU is not intended to provide and shall not be construed to provide a private right or cause of action for or by any person or entity, whether in law or in equity.

## **VI. Right to Terminate**

Either Party may unilaterally terminate this MOU by providing thirty (30) calendar days advance written notice to the other Party.

## **VII. Modifications**

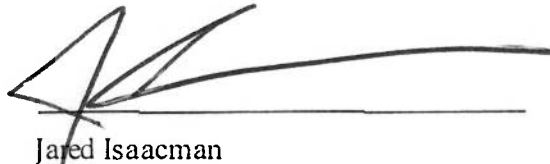
Any modification to this MOU will be executed, in writing, and signed by an authorized representative of each Party.

## **VIII. Applicable Law**

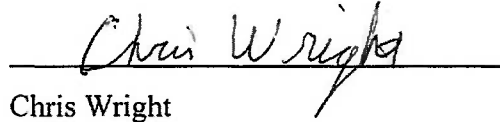
U.S. Federal law governs this MOU for all purposes, including, but not limited to, determining the validity of the MOU, the meaning of its provisions, and the rights, obligations and remedies of the Parties.

**IX. Signatory Authority**

Approved and authorized on behalf of each Party by:



Jared Isaacman  
Administrator  
National Aeronautics and  
Space Administration



Chris Wright  
Secretary of Energy  
Department of Energy

Date: 12/22/2025

Date: December 12, 2025