

119TH CONGRESS
2D SESSION

H. R. 9193

To advance NASA’s use of nuclear propulsion and power systems for deep space exploration, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JUNE 8, 2026

Mr. KENNEDY of Utah (for himself and Mr. MOORE of North Carolina) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To advance NASA’s use of nuclear propulsion and power systems for deep space exploration, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Powering the Future
5 of American Space Dominance Act”.

6 **SEC. 2. SPACE NUCLEAR POWER AND PROPULSION SYS-**
7 **TEMS.**

8 (a) SENSE OF CONGRESS.—It is the sense of Con-
9 gress that—

1 (1) space nuclear systems are a key enabling
2 technology for deep space human and robotic mis-
3 sions;

4 (2) development of space nuclear systems will
5 require long-term commitment and investment;

6 (3) advancing space nuclear systems could sup-
7 port the National Aeronautics and Space Adminis-
8 tration's (NASA's) efforts to ensure technological
9 readiness for Moon and Mars missions and other
10 deep space exploration;

11 (4) radioisotope heater units and electric radio-
12 isotope power systems represent proven, near-term
13 technologies capable of enabling lunar night survival
14 and sustained surface operations; and

15 (5) NASA and the Department of Energy have
16 a long history of collaboration on the development of
17 space nuclear power and propulsion systems.

18 (b) PLANS.—Not later than 180 days after the date
19 of the enactment of this Act, the Administrator shall sub-
20 mit to the Committee on Science, Space, and Technology
21 of the House of Representatives and the Committee on
22 Commerce, Science, and Transportation of the Senate an
23 update to each of the plans required under subsections
24 (a)(3) and (b)(2) of section 10841 of the National Aero-
25 nautics and Space Administration Authorization Act of

1 2022 (51 U.S.C. 20301 note), which shall include infor-
2 mation relating to the following:

3 (1) The status of and progress made with re-
4 spect to the space nuclear propulsion program under
5 subsection (a)(2) of such section.

6 (2) An assessment of the potential near-term
7 use cases of nuclear systems for NASA missions, in-
8 cluding how such systems could be used on commer-
9 cial lunar payload services missions for lunar night
10 survival, and an estimate of associated costs.

11 (3) The status of the in-space demonstration of
12 a nuclear propulsion system in the late 2020s, in-
13 cluding remaining milestones and estimated dates
14 for completion of each such milestone.

15 (4) A proposed phased program for use of radi-
16 oisotope heater units and electric radioisotope power
17 systems to further the goals of the Moon to Mars
18 Program and the commercial lunar payload services
19 program, including the following:

20 (A) Demonstrations of radioisotope heater
21 units for lunar night survival by not later than
22 December 31, 2028, and of radioisotope power
23 systems by not later than December 31, 2030.

1 (B) Routine use of such systems for lunar
2 night survival and operations by not later than
3 December 31, 2032.

4 (5) A description of follow-on activities for the
5 Harmonia Radioisotope Power System project for
6 demonstration and deployments, including a timeline
7 and plan for first deployment on the lunar surface.

8 (6) An assessment of the readiness to launch a
9 derivative fission surface power system by December
10 31, 2030, for deployment on the surface of the
11 Moon.

12 (7) A description of current and planned NASA
13 efforts to engage with Federal departments and
14 agencies and private sector entities on the develop-
15 ment and demonstration of space nuclear systems
16 and technologies.

17 (8) A plan for the use of previously developed
18 NASA hardware, as appropriate.

19 (c) LESSONS LEARNED ASSESSMENT.—Not later
20 than 180 days after the date of the enactment of this Act,
21 the Administrator shall submit to the Committee on
22 Science, Space, and Technology of the House of Rep-
23 resentatives and the Committee on Commerce, Science,
24 and Transportation of the Senate a lessons learned assess-
25 ment derived from the joint NASA–DARPA Demonstra-

1 tion Rocket for Agile Cislunar Operations program. Such
2 assessment shall identify the following:

3 (1) The technical, programmatic, governance,
4 acquisition, and interagency coordination failures
5 that contributed to the inability to execute a flight
6 demonstration.

7 (2) The corrective actions the Administrator of
8 NASA has taken or will take to prevent recurrence
9 of such failures in future space nuclear power and
10 propulsion programs.

11 **SEC. 3. LUNAR SURFACE POWER.**

12 (a) FINDINGS.—Congress makes the following find-
13 ings:

14 (1) Increased access to reliable power could fur-
15 ther NASA goals of carrying out robust human and
16 robotic exploration of the Moon and other deep
17 space destinations.

18 (2) Commercial entities seek to deploy tech-
19 nologies such as solar arrays, nuclear reactors, and
20 radioisotope power systems to the surface of the
21 Moon for the purpose of providing power for lunar
22 activities.

23 (3) Leveraging commercially developed power
24 infrastructure to carry out Moon to Mars program
25 activities could allow NASA to increase efficiency

1 and reduce costs of such missions, and encourage
2 commercial entities to accelerate the deployment of
3 lunar power sources.

4 (b) REPORT ON POWER DEMAND.—

5 (1) IN GENERAL.—Not later than 120 days
6 after the date of the enactment of this Act, the Ad-
7 ministrator of NASA shall submit to the Committee
8 on Science, Space, and Technology of the House of
9 Representatives, the Committee on Commerce,
10 Science, and Transportation of the Senate, and the
11 non-governmental entity under subsection (c) a re-
12 port that forecasts the demand for power, including
13 heat and electricity, of NASA for operations on the
14 lunar surface during the 10-year period beginning
15 on such date of enactment.

16 (2) ELEMENTS.—The report required under
17 paragraph (1) shall—

18 (A) consider the power demand of NASA
19 for operations on the lunar surface for—

20 (i) near-term exploration activities;

21 (ii) long-duration surface activities;

22 and

23 (iii) activities intended to be con-
24 ducted throughout the lunar night; and

25 (B) include an assessment of—

1 (i) the projected power needs for both
2 human and robotic NASA operations on
3 the lunar surface; and

4 (ii) an assessment of the power needs
5 of commercial entities engaged in activities
6 to support NASA operations.

7 (3) FORM.—The report required under para-
8 graph (1) shall be submitted in unclassified form but
9 may include a classified annex.

10 (c) LUNAR POWER PURCHASE AGREEMENT FEASI-
11 BILITY STUDY.—

12 (1) IN GENERAL.—The Administrator of NASA
13 may enter into an arrangement with an non-govern-
14 mental entity with appropriate expertise to conduct
15 a study evaluating the feasibility of using power pur-
16 chase agreements to facilitate the private sector de-
17 velopment and deployment of lunar surface power
18 capabilities.

19 (2) CONTENTS.—The study conducted under
20 paragraph (1) shall consider the results of the report
21 required under subsection (b), and may include the
22 following:

23 (A) An identification of facilities and tech-
24 nical capabilities needed to support lunar sur-
25 face power production.

1 (B) A description and assessment of the
2 types and technical readiness of technologies
3 that could be used to provide the United States
4 with access to lunar surface power, and an esti-
5 mated timeline of availability of such tech-
6 nologies.

7 (C) An identification of lessons learned
8 from Federal Government experience with
9 power purchase agreements, including a de-
10 scription of any relevant Federal Government
11 use of such agreements, and a description of
12 how such lessons learned could inform or be ap-
13 plied to future such agreements.

14 (D) Potential policy and legal issues asso-
15 ciated with lunar power purchase agreements
16 between providers and the Federal Government,
17 international partners, and other private sector
18 entities.

19 (3) REPORT.—Not later than two years after
20 the date of the enactment of this Act, the Adminis-
21 trator of NASA shall submit to the appropriate com-
22 mittees of Congress a report that describes the re-
23 sults of the study under paragraph (1).

24 (d) AGREEMENTS.—

1 (1) IN GENERAL.—Based on the results of the
2 report under subsection (b), the study under sub-
3 section (c), and consultation under each of such sub-
4 sections, the Administrator of NASA may, through
5 an open and competitive solicitation process, enter
6 into an agreement with not fewer than two private
7 sector entities that utilize not fewer than two dif-
8 ferent energy technologies, for the purpose of pro-
9 curing power systems or acquiring power on the
10 lunar surface.

11 (2) TERMS.—The Administrator of NASA shall
12 ensure any agreement entered into under paragraph
13 (1) satisfies the following:

14 (A) Includes the right of the Administrator
15 to terminate such agreement if the private sec-
16 tor entity concerned is unable to commence the
17 delivery of power on the lunar surface by the
18 date that is four years after the date on which
19 such an agreement is entered into.

20 (B) Does not allow for payment in excess
21 of ten percent of the contract value to be made
22 before power is provided to NASA, or a NASA-
23 sponsored entity, on the lunar surface.

24 (3) SUNSET.—

1 (A) IN GENERAL.—The authority to enter
2 into agreements under paragraph (1) shall ter-
3minate on October 1, 2030.

4 (B) SAVING PROVISION.—An agreement
5 entered into under paragraph (1) that is en-
6tered into before the date of termination speci-
7fied in subparagraph (A)—

8 (i) shall not be affected by such termi-
9nation; and

10 (ii) shall continue until the conclusion
11 of such agreement.

12 (e) COORDINATION.—In preparing the report under
13 subsection (b)(1) and conducting the study under sub-
14section (c)(1), the Administrator of NASA may consult
15 with the following:

16 (1) The Lunar Surface Innovation Consortium.

17 (2) The Secretary of Energy, the Secretary of
18 Commerce, and the heads of other Federal depart-
19ments or agencies, as determined appropriate by the
20 Administrator.

21 (3) International partners.

22 (4) Relevant private sector entities.

1 **SEC. 4. REPORT RISK MANAGEMENT APPROACHES FOR**
2 **COMMERCIAL PARTNERS SUPPORTING NASA**
3 **SPACE NUCLEAR ACTIVITIES.**

4 (a) IN GENERAL.—Not later than 180 days after the
5 date of the enactment of this Act, the Administrator of
6 NASA, in consultation with the head of any other appro-
7 priate Federal agency, shall submit to the Committee on
8 Science, Space, and Technology of the House of Rep-
9 resentatives and the Committee on Commerce, Science,
10 and Transportation of the Senate a report reviewing exist-
11 ing frameworks for, and proposing new frameworks for,
12 indemnification of commercial partners supporting NASA
13 space nuclear activities.

14 (b) ELEMENTS.—The report required under sub-
15 section (a) shall include the following:

16 (1) An evaluation of the existing statutory and
17 regulatory authorities under which NASA or another
18 appropriate Federal agency may provide indem-
19 nification or other liability protection related to the
20 use of space nuclear systems.

21 (2) An identification of gaps, or areas lacking
22 clarity on implementation, in the current indem-
23 nification framework for civil activities involving
24 commercial partners, including relating to the fol-
25 lowing:

26 (A) Radioisotope power systems.

1 (B) Fission surface power systems.

2 (C) Nuclear electric or thermal propulsion
3 systems.

4 (3) An assessment of potential solutions to ad-
5 dress such gaps or areas, or otherwise enable use of
6 existing authorities, including relating to the fol-
7 lowing:

8 (A) Indemnification under section 20138
9 of title 51, United States Code, and Public Law
10 85–804 (50 U.S.C. 1431 et seq.).

11 (B) The applicability of authorities under
12 part 440 of title 14, Code of Federal Regula-
13 tions, for nuclear systems launched on commer-
14 cially procured launch vehicles.

15 (C) Extension of coverage under section
16 170 of the Atomic Energy Act of 1954 (42
17 U.S.C. 2210).

18 (4) Recommendations for legislative or regu-
19 latory changes to ensure appropriate use of existing
20 indemnification mechanisms, or for the development
21 of new statutory authorities or risk-sharing mecha-
22 nisms, for commercial partners supporting NASA
23 space nuclear activities.

1 (c) SCOPE.—The report required under subsection
2 (a) shall address indemnification considerations for the
3 following:

4 (1) United States Government-sponsored mis-
5 sions.

6 (2) Missions conducted through public-private
7 partnerships and commercially procured services, in-
8 cluding technology demonstrations and operational
9 capability deployments in cislunar space, on the
10 lunar surface, or beyond low-Earth orbit.

11 (d) FORM.—The report required under subsection (a)
12 shall be submitted in unclassified form but may include
13 a classified annex.

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