

116TH CONGRESS }
2d Session }

SENATE

{ REPORT
{ 116-194

ONE SMALL STEP TO PROTECT HUMAN
HERITAGE IN SPACE ACT

R E P O R T

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND
TRANSPORTATION

ON

S. 1694



JANUARY 6, 2020.—Ordered to be printed

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED SIXTEENTH CONGRESS

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Mr. WICKER, from the Committee on Commerce, Science, and
Transportation, submitted the following

R E P O R T

[To accompany S. 1694]

[Including cost estimate of the Congressional Budget Office]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 1694) to require any Federal agency that issues licenses to conduct activities in outer space to include in the requirements for such licenses an agreement relating to the preservation and protection of the Apollo 11 landing site, and for other purposes, having considered the same, reports favorably thereon with an amendment (in the nature of a substitute) and an amendment to the title and recommends that the bill (as amended) do pass.

PURPOSE OF THE BILL

The purpose of S. 1694 is to require any Federal agency that issues licenses to conduct activities in outer space to include in the requirements for such licenses an agreement relating to the preservation and protection of the Apollo 11 landing site, and for other purposes.

BACKGROUND AND NEEDS

On July 20, 1969, U.S. astronauts Neil Armstrong and Edwin “Buzz” Aldrin landed on the Moon as part of the National Aeronautics and Space Administration’s (NASA) Apollo 11 mission. During their visit to the lunar surface, the two astronauts left equipment, science experiments, and the first human footprints off the surface of the Earth. Five subsequent Apollo missions successfully landed 10 more men on the lunar surface. Aside from the historical significance, all the landing sites provide the opportunity to

learn about the impact of long-term exposure of human-created systems in the harsh lunar environment. Given the increasing number of entities with plans to land spacecraft on the moon, legal protections are required to prevent damage or disturbance of the sites and artifacts.

Article VIII of the Outer Space Treaty establishes that items left on the Moon remain the property of, and under control of, the nation in which they are registered.¹ This provision, taken along with other articles of the treaty, can be generally interpreted to prohibit other states or entities from disturbing such objects without the owner's consent. However, insistence on leaving objects untouched suggests occupation of the site, thus violating the non-appropriation principles of Article II. Article IX of the Outer Space Treaty also requires all activities in outer space be conducted with "due regard." This term has never been clearly defined, and the treaty only refers to objects, not the sites themselves, or the features on the site, like boot prints and rover tracks.

In 2011, NASA released its "Recommendations to Space-Faring Entities: How to Protect and Preserve the Historic and Scientific Value of U.S. Government Lunar Artifacts."² Although some entities have voluntarily agreed to follow these recommendations, no current U.S. law explicitly provides for the protection of such sites and artifacts. In March 2018, the Office of Science and Technology Policy published a report entitled "Protecting & Preserving Apollo Program Lunar Landing Sites & Artifacts," which recommended international engagement to develop best practices for preserving historical sites and artifacts in space.³

SUMMARY OF PROVISIONS

The One Small Step to Protect Human Heritage in Space Act establishes the sense of Congress that the Apollo 11 landing site, other historical sites, and artifacts should be preserved. The bill accomplishes this goal by requiring companies seeking U.S. licenses to operate in space to agree to avoid disturbing U.S. Government artifacts and landing sites, including the Apollo 11 landing site, by adhering to NASA guidance on the protection of lunar artifacts. It defines "lunar activity" in the context of this licensing requirement and allows for the assessment of penalties for noncompliance.

LEGISLATIVE HISTORY

S. 1694, the One Small Step to Protect Human Heritage in Space Act, was introduced on May 23, 2019, by Senator Peters (for himself and Senator Cruz) and was referred to the Committee on Commerce, Science, and Transportation of the Senate. Senators Brown, Blumenthal, Markey, and Capito are additional cosponsors. On

¹U.S. Department of State, Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies. Signed January 27, 1967. (<https://2009-2017.state.gov/t/isn/5181.htm#treaty>)

²U.S. National Aeronautics and Space Administration (NASA), NASA's Recommendations to Space-Faring Entities: How to Protect and Preserve the Historic and Scientific Value of U.S. Government Lunar Artifacts. Released July 20, 2011. (https://www.nasa.gov/pdf/617743main_NASA-USG_LUNAR_HISTORIC_SITES_RevA-508.pdf)

³Executive Office of the President, Office of Science and Technology Policy, Protecting & Preserving Apollo Program Lunar Landing Sites & Artifacts. Released March 2018. (<https://www.whitehouse.gov/wp-content/uploads/2018/03/Protecting-and-Preserving-Apollo-Program-Lunar-Landing-Sites-and-Artifacts.pdf>)

July 10, 2019, the Committee met in open Executive Session and, by voice vote, ordered S. 1694 reported favorably with an amendment (in the nature of a substitute). On July 16, 2019, the bill was reported by Senator Wicker with an amendment (in the nature of a substitute) and an amendment to the title. On July 18, 2019, the bill was passed in the Senate, by voice vote, with an amendment and an amendment to the title, and on July 19, 2019, S. 1694 was referred to the Committees on Science, Space, and Technology, and Foreign Affairs of the House of Representatives.

ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

S. 1694, One Small Step to Protect Human Heritage in Space Act			
As ordered reported by the Senate Committee on Commerce, Science, and Transportation on July 10, 2019			
By Fiscal Year, Millions of Dollars	2019	2019-2024	2019-2029
Direct Spending (Outlays)	0	0	0
Revenues	0	*	*
Deficit Effect	0	*	*
Spending Subject to Appropriation (Outlays)	0	*	n.e.
Statutory pay-as-you-go procedures apply?	Yes	Mandate Effects	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2030?	No	Contains intergovernmental mandate?	No
		Contains private-sector mandate?	No
n.e. = not estimated; * = between -\$500,000 and \$500,000.			

S. 1694 would direct federal agencies that issue licenses to private entities for lunar activities to require applicants to abide by National Aeronautics and Space Administration (NASA) recommendations on protecting historical lunar landing sites and artifacts. Although several agencies issue licenses and permits for space-related activities—including the Federal Aviation Administration and the National Oceanic and Atmospheric Administration—CBO is not aware of any agency that issues licenses specifically for lunar activities. We expect that such licenses, if made available, would be issued infrequently. On that basis, and considering the costs of similar tasks, CBO estimates that any administrative costs to implement S. 1694 would be insignificant over the 2020–2024 period; such spending would be subject to the availability of appropriated funds.

The bill would authorize agencies to assess civil penalties, which are recorded in the federal budget as revenues, on license holders who violate NASA's recommendations. However, CBO estimates that any penalties collected under the bill would be insignificant.

The CBO staff contact for this estimate Janani Shankaran. The estimate was reviewed by H. Samuel Papenfuss, Deputy Assistant Director for Budget Analysis.

REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported:

NUMBER OF PERSONS COVERED

The bill requires applicants for U.S. licenses to conduct lunar activities to agree to abide by NASA's recommendations on the protection of U.S. Government artifacts on the lunar surface, along with any successive guidance from NASA. The bill grants each Federal agency responsible for issuing a license for lunar activity the authority to impose a penalty fee commensurate with the nature of, and extent of, any violation that may occur. Individuals or businesses who do not apply for U.S. licenses to conduct lunar activities would not be affected by the provisions included in the bill, and therefore the number of persons covered should be consistent with current levels of individuals who apply for U.S. licenses to conduct activities in space.

ECONOMIC IMPACT

Enactment of this legislation is not expected to have a negative impact on the Nation's economy. Any economic impact would be limited to individuals or businesses who violate the terms of a license to conduct a lunar activity issued by a U.S. Federal agency.

PRIVACY

The reported bill is not expected to have an adverse impact on the personal privacy of individuals.

PAPERWORK

The Committee does not anticipate a major increase in paperwork burdens resulting from the passage of this legislation. In those areas where the bill does require limited additional paperwork, it is aimed at preserving and protecting areas on the lunar surface that are of historical importance to the United States.

CONGRESSIONALLY DIRECTED SPENDING

In compliance with paragraph 4(b) of rule XLIV of the Standing Rules of the Senate, the Committee provides that no provisions contained in the bill, as reported, meet the definition of congressionally directed spending items under the rule.

SECTION-BY-SECTION ANALYSIS

Section 1. Short title.

This section would provide that the bill may be cited as the "One Small Step to Protect Human Heritage in Space Act".

Section 2. Findings; Sense of Congress.

This section would set forth that it is the sense of Congress that more public and private entities have plans to conduct activities on or around the moon, that the Apollo 11 landing site and historical artifacts should be preserved, and that the President should work with other space-faring nations to ensure such preservation.

Section 3. Licensing requirements concerning preservation of historic lunar landing sites.

This section would require that, within 90 days of enactment, applicants for U.S. licenses to conduct activities in space agree to abide by NASA's recommendations on the protection of U.S. Government artifacts along with any successive guidance from NASA.

This section also would allow agencies, in consultation with the NASA Administrator, to issue exemptions for specific lunar activities based on their historical, archeological, anthropological, scientific, or engineering value.

This section would authorize agencies to assess penalty fees on license holders who violate the terms of the license relating to protection of lunar artifacts.

This section also would define "lunar activity" as used in the bill.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the Committee states that the bill as reported would make no change to existing law.

