S. 5663 Lummis_ANS (as modified)

AMENDMENT NO._____ Calendar No._____

Purpose: In the nature of a substitute.

IN THE SENATE OF THE UNITED STATES—119th Cong., 2d Sess.

S. 5663

To establish a program at the National Science Foundation to fund research awards to reproduce federally funded research.

Referred to the Committee on _____ and ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT IN THE NATURE OF A SUBSTITUTE intended to be proposed by _____

Viz:

Amend the title so as to read: "To establish a program at the National Science Foundation to fund research awards to reproduce research.".

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the "Promoting Replication and Oversight of Federal Research Act" or the "PROOF Act".

SEC. 2. DEFINITIONS.

In this Act:

(1) DIRECTOR.—The term "Director" means the Director of the National Science Foundation.

(2) INSTITUTION OF HIGHER EDUCATION.—The term "institution of higher education" has the meaning given the term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001).

(3) REPLICATION.—The term "replication" means repeating a prior study using independently obtained data to answer the same scientific question and determine whether consistent results are obtained.

(4) STEM.—The term "STEM" means the academic and professional disciplines of science, technology, engineering, and mathematics.

SEC. 3. REPLICATION OF SCIENTIFIC RESEARCH.

(a) IN GENERAL.—

(1) AUTHORIZATION OF AWARDS.—The Director shall make awards, through a competitive, merit-review process, to institutions of higher education to support the replication of research funded by the National Science Foundation.

(2) RESTRICTION ON DISCRIMINATION.—In carrying out this section, the Director may not include, expressly or impliedly, any grant award condition or

requirement for a grant applicant to engage in discrimination, grant preferential treatment, or impose adverse treatment on the basis of race, color, religion, sex, or national origin, in carrying out the proposed research.

(b) APPLICATION.—

(1) IN GENERAL.—An institution of higher education seeking an award under subsection (a) shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require.

(2) CONTENTS.—An application submitted under paragraph (1) shall include, at a minimum—

(A) an identification of the research funded by the National Science Foundation to be replicated;

(B) a description of how the proposed replication would contribute to the reliability, transparency, and advancement of scientific knowledge;

(C) evidence that the applicant has the capacity and capability to conduct the proposed replication with existing infrastructure or minimal need for new acquisitions;

(D) a description of the number, size, and nature of any stipends that will be provided by the applicant to students and the reasons such stipends are needed;

(E) an identification of any known conflicts of interest or conflicts of commitment the applicant may have with respect to the proposed research;

(F) metrics for analyzing the replication of the research; and

(G) a proposed timeline for completing the proposed replication of the research.

(c) REVIEW OF APPLICATIONS.—In evaluating applications submitted under subsection (b), the Director—

(1) shall consider, at a minimum—

(A) the extent to which the proposed replication will contribute to greater scientific understanding;

(B) the extent to which the applicant has the capability and capacity to carry out the proposed replication;

(C) a cost benefit analysis of conducting the proposed replication at the respective institution of higher education, including consideration of new infrastructure acquisitions; and

(D) any scientific integrity implications of the applicant conducting the replication, including conflicts of interest and conflicts of commitment; and

(2) shall not discriminate against, grant preferential treatment to, or impose adverse treatment against, applicants on the basis of race, color, religion, sex, or national origin.

(d) USE OF FUNDS.—

(1) IN GENERAL.—An institution of higher education that receives an award under this section shall use the funds to cover reasonable costs of activities to support the replication of research funded by the National Science Foundation, including—

(A) tuition and stipends for not more than 3 years for eligible students described in paragraph (2);

(B) materials, instrumentation, and associated facility costs;

(C) travel for activities related to research replication; and

(D) costs associated with an analysis of scientific reproducibility of research funded by the National Science Foundation.

(2) ELIGIBLE STUDENTS.—A student is eligible to receive support under this section if the student—

(A) is—

(i) a citizen of the United States;

(ii) a national of the United States (as such term is defined in section 101(a) of the Immigration and Nationality Act (8 U.S.C. 1101(a)); or

(iii) an alien lawfully admitted to the United States for permanent residence.

(B) intends to enroll, or is enrolled, full time in a research-based graduate degree program in a STEM field at an institution of higher education;

(C) holds a bachelor's degree in a STEM field that is related to the research for which the student seeks support under this section; and

(D) has not received a doctoral or terminal degree in any field.

(e) REPORT.—Not later than 18 months after the date of the first award made under this section, and annually thereafter, the Director shall submit to the Committee on Commerce, Science, and Transportation of the Senate

and the Committee on Science, Space, and Technology of the House of Representatives, a report summarizing—

(1) the total number of replication awards made under this section;

(2) the total number of students supported under this section;

(3) the number of replication awards made under this section, disaggregated by academic field and original funding agency; and

(4) an analysis of the findings of the original research compared to the findings of the replicated research supported under this section.