

Appendix:

H. _____

To establish a pilot program for National Science Foundation grant lotteries.

IN THE HOUSE OF REPRESENTATIVES OF THE UNITED STATES

FEBRUARY 2, 2022

A BILL

Title: To establish a pilot program for National Science Foundation grant lotteries.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SEC. _____. Pilot Program to Establish National Science Foundation Grant Lotteries

(a) FINDINGS.— Congress makes the following findings:

- (1) Over the past seven decades, the National Science Foundation has played a critical role in advancing the United States academic research enterprise by supporting fundamental research and education across all scientific disciplines;
- (2) The National Science Foundation has made remarkable contributions to scientific advancement, economic growth, human health, and national security, and its peer review and merit review processes have identified and funded scientifically and societally relevant basic research;
- (3) Every year, thousands of meritorious grant proposals do not receive National Science Foundation grants, threatening the United States' leadership in science and technology and harming our efforts to lead translation and development of scientific advances in key

technology areas; and

- (4) While Congress reaffirms its belief that the National Science Foundation’s merit-review system is appropriate for evaluating grant proposals, Congress should establish efforts to explore alternative mechanisms for distributing grants and evaluating, objectively, whether it can supplement the merit-review system by funding worthwhile projects that otherwise go unawarded.

(b) DEFINITIONS.—In this section:

- (1) Directorate.— The term “Directorate” refers to the Directorate for Technology and Innovation established in Sec. 2102 of this Act.
- (2) Assistant Director.— The term “Assistant Director” refers to the Assistant Director for the Directorate described in Sec. 2102(d) of this Act.
- (3) Foundation.—The term “Foundation” refers to the National Science Foundation.
- (4) PAPPG.—The term “PAPPG” refers to the document entitled “OMB Control Number 3145-0058,” also known as the Proposal and Award Policies and Procedures Guide, published by the National Science Foundation, also published as NSF 22-1.
- (5) Program.—The term “program” refers to the program established in subparagraph (d) of this section.
- (6) Grant request.—The term “grant request” refers to the amount of funding requested in an individual grant proposal to the National Science Foundation.
- (7) Lottery awardee.—The term “lottery awardee” refers to a grant proposal selected for award during a lottery established by this section.
- (8) Lottery year.—The term “lottery year” refers to the calendar year of eligibility for proposals, as determined by the Assistant Director, for a lottery established under this program.

(c) PURPOSE.—It is the purpose of this section to establish a pilot program for merit-based lotteries to award scientific research grants in order to:

- (1) Provide grants to meritorious but unawarded grant proposals;
- (2) Explore “second-look” mechanisms to distribute grants to meritorious but overlooked grant proposals; and
- (3) To evaluate whether alternative mechanisms can supplement the Foundation’s merit-review system.

(d) ESTABLISHMENT.— No later than 180 days after establishment of the Directorate, the Assistant Director shall establish a lottery program to provide second-look grants for meritorious grant proposals that were declined funding by the Foundation.

(e) REQUIREMENTS.

- (1) Eligibility.—A grant proposal shall be eligible for a lottery if:
 - (A) It did not receive funding from the Foundation;
 - (B) The grant proposal received an overall evaluation score deemed meritorious during the peer review process;
 - (i) Meritorious.—The Assistant Director determine a minimum score that a proposal

must receive during the peer evaluation process described in Chapter III of the PAPPG to be deemed meritorious.

- (C) The grant request does not exceed 200 percent of the median grant request to a given directorate in the calendar year with the most recently available data;
 - (D) The grant was proposed to one of the following directorates within the Foundation:
 - (i) Biological Sciences;
 - (ii) Computer and Information Science and Engineering;
 - (iii) Engineering;
 - (iv) Geosciences; or
 - (v) Mathematical and Physical Sciences;
 - (vi) Social, Behavioral, and Economic Sciences;
 - (vii) Education and Human Resources;
 - (viii) Environmental Research and Education;
 - (ix) International Science of Engineering;
 - (E) The grant has been deemed timely by a Foundation Program Officer; and
 - (F) Any other criteria deemed necessary by the Assistant Director
- (2) Exemptions.—If deemed necessary or worthwhile to further the mission and goals of the Directorate or the Foundation, the Assistant Director may:
- (A) Exempt grant proposals from the requirement in subparagraph (e)(1)(D); and
 - (B) Determine an appropriate method to include such exempted proposals in a lottery.
- (3) Stakeholder Feedback.—Prior to finalizing eligibility requirements, the Assistant Director shall, to the extent practicable, ensure that the requirements take into consideration advice and feedback from the scientific research community. The Federal Advisory Committee Act (5 U.S.C. App.) shall not apply whenever such advice or feedback is sought in accordance with this subsection.

(f) IMPLEMENTATION.

- (1) Policies and Procedures.—The Assistant Director shall:
- (A) Develop procedures and policies to ensure that each grant lottery:
 - (i) Is randomized and affords equal opportunity to all participants; and
 - (ii) Is not susceptible to fraud;
 - (B) Ensure that grant amounts are distributed equitably among the directorates described in subparagraph (e)(1)(D);
 - (C) Ensure that relevant external parties have due notice of their obligations with respect to participation in a lottery;
 - (D) Ensure that relevant staff and officers of the Foundation are aware of their duties and responsibilities with respect to implementation of the program;
 - (E) Ensure that ranked alternative awardees are selected for each lottery in the event that:
 - (i) a lottery awardee withdraws their application;
 - (ii) a lottery awardee receives Foundation funding following an appeals process; or
 - (iii) is otherwise deemed ineligible for a Foundation grant.
- (2) Grant Approval.—Once a proposal has been selected for an award:
- (A) It shall be submitted to the Division of Grants and Agreements for a review of business, financial, and policy implications and award finalization thereafter, as described in PAPPG Chapter III; and

- (B) It shall not be declined funding by the Division of Grants and Agreements unless granting the award would result in fraud, abuse, or other outcomes deemed egregious and antithetical to the mission of the Foundation.
- (3) Lottery timeline.—For each directorate specified in subparagraph (e)(1)(D), the Assistant Director shall administer a lottery for each calendar year ending in the years [2022, 2023, and 2024].
- (4) Stakeholder Feedback.—Prior to finalizing lottery implementation, and subsequent to conducting each lottery, the Assistant Director shall, to the extent practicable, ensure that lottery implementation takes into consideration advice and feedback from the scientific research community. The Federal Advisory Committee Act (5 U.S.C. App.) shall not apply whenever such advice or feedback is sought in accordance with this subsection.
- (g) DEADLINE OF SUBMISSION OF GRANTS TO THE DIRECTORATE.—No later than [90 days] following a given lottery year, Foundation Program Officers shall submit all grant proposals that meet the criteria described in subparagraphs (e)(1)(A)—(e)(1)(F) of this section.
- (h) AUTHORIZATION OF APPROPRIATION.— There is authorized to be appropriated to the Foundation [\$---,000,000] to carry out this Section.
- (i) EVALUATION AND OVERSIGHT AND PUBLIC ACCESS.
- (1) Evaluation.—The Assistant Director shall:
- (A) Ensure that awards are evaluated using the same methods and procedures as other grant programs of the Foundation, including as set forth by the Foundation’s Evaluation and Assessment Capability and the Foundation’s values of learning, excellence, inclusion, collaboration, integrity, and transparency; and
- (B) Establish a rapid, empirically-based evaluation program to determine the effectiveness of the lottery program.
- (2) Reports to Congress.—
- (A) Periodic.— No later than 180 days following completion of a lottery, the Assistant Director shall submit a summary report to Congress including:
- (i) A list of all grants awarded;
- (ii) Demographic information of the grant awardees;
- (iii) Geographic information of the grant awardees;
- (iv) Information regarding the institutions receiving grants;
- (v) An assessment comparing lottery grant awardees with those awarded grants through the Foundation’s traditional review process;
- (vi) Information and data describing the entire pool of grant proposals deemed eligible for the lottery.
- (vii) Any other information deemed necessary or valuable by the Assistant Director;
- (B) Yearly.—Not later than [two years] following the first lottery, the Assistant Director shall submit comprehensive reports on a yearly basis, for a period of five years after the report submission, evaluating awards using the Foundation’s Evaluation and Assessment Capability or other assessment methods used to evaluate grants awarded through the traditional grant process;
- (C) Final report.—Within [3 years] of completion of the final lottery, the Assistant

Director shall submit a final report to Congress evaluating the success of the program and assessing whether Congress should make the program permanent.

(3) PUBLIC ACCESS.—The Assistant Director shall:

(A) Ensure that the program meets the requirements of the Foundation's:

(i) Open Science Policy;

(ii) Public Access Policy; and

(iii) General values of learning, transparency, and integrity.

(B) Make grant information available to the public as soon as is feasible to facilitate rapid, empirically-based evaluation by external stakeholders;

(j) DUTIES, CONDITIONS, RESTRICTIONS, AND PROHIBITIONS.—

(1) Right to Review.—Nothing in this section shall affect an applicant's right to review, appeal, or contest an award decision.