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HOUSE OF REPRESENTATIVES
REPORT
114–412

SCIENTIFIC RESEARCH IN THE NATIONAL INTEREST ACT

FEBRUARY 2, 2016.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. SMITH of Texas, from the Committee on Science, Space, and Technology, submitted the following

R E P O R T

together with

MINORITY VIEWS

[To accompany H.R. 3293]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, Space, and Technology, to whom was referred the bill (H.R. 3293) to provide for greater accountability in Federal funding for scientific research, to promote the progress of science in the United States that serves that national interest, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass.

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COMMITTEE STATEMENT AND VIEWS

PURPOSE AND SUMMARY

H.R. 3293, the Scientific Research in the National Interest Act, is sponsored by Representative Lamar Smith, Chairman of the House Science, Space, and Technology Committee. The purpose of the bill is to provide for greater accountability in Federal funding for scientific research at the National Science Foundation and to promote the progress of science in the United States that serves the national interest.

BACKGROUND AND NEED FOR LEGISLATION

Throughout its history, the NSF has played an integral role in funding breakthrough discoveries in fields as diverse as mathematics, physics, chemistry, computer science, engineering and biology. However, the Committee has expressed concern that the NSF has approved a number of grants for which the scientific merits and national interest are questionable, or at least not obvious.

The NSF has recognized the need for increased transparency and accountability and in January 2015 established a policy requiring clear, non-technical explanations of each research grant and an explanation of how it supports the national interest. H.R. 3293 makes that commitment permanent and explicit.

LEGISLATIVE HISTORY

On May 20, 2015, the House of Representatives passed H.R. 1806, the America COMPETES Reauthorization Act of 2015 by a vote of 217–205, which included the text of H.R. 3293 as section 106. On October 8, 2015, the House Science, Space and Technology Committee passed H.R. 3293 by voice vote.

COMMITTEE VIEWS

The Committee believes that H.R. 3293 is consistent with the policy announced by the NSF in January 2015, emphasizing that the title and abstract for each funded grant should act as the public justification for NSF funding.

The Committee recognizes the NSF's commitment to improving transparency, and believes that H.R. 3293 further ensures that NSF research funding is accountable to the American taxpayer by requiring that the NSF's public announcement of a grant award be accompanied by a non-technical explanation of the project's scientific merits and how it serves the national interest according to specific criteria.

The Committee believes that H.R. 3293 does not change the Foundation's merit review process, as the bill states: "Nothing in this section shall be construed as altering the Foundation's intellectual merit or broader impacts criteria for evaluating grant applications."

SECTION-BY-SECTION

Section 1. Short title

Scientific Research in the National Interest Act

Section 2. Greater accountability in Federal funding for research

This section requires that the National Science Foundation make a determination that every research grant or cooperative agreement is worthy of Federal funding and is in the national interest as indicated by having the potential to achieve: promotion of the progress of science for the United States; increased economic competitiveness in the United States; advancement of the health and welfare of the American public; development of an American STEM workforce that is globally competitive; increased public scientific literacy and public engagement with science and technology in the United States; increased partnerships between academia and industry in the United States; or support for the national defense of the United States.

This section requires that the public announcement of each award of Federal funding must include a written justification from the responsible Foundation official as to how a grant or cooperative agreement meets the accountability requirements.

This section also instructs that nothing in the section shall be misconstrued as altering the Foundation's intellectual merit or broader impacts criteria for evaluating grant applications.

EXPLANATION OF AMENDMENTS

No amendments were adopted.

COMMITTEE CONSIDERATION

On October 8, 2015, the Committee met in open session and ordered reported favorably the bill, H.R. 3293, by voice vote, a quorum being present.

APPLICATION OF LAW TO THE LEGISLATIVE BRANCH

Section 102(b)(3) of Public Law 104–1 requires a description of the application of this bill to the legislative branch where the bill relates to the terms and conditions of employment or access to public services and accommodations. This bill requires that the National Science Foundation make a determination that every research grant or cooperative agreement is worthy of Federal funding and is in the national interest. As such this bill does not relate to employment or access to public services and accommodations.

STATEMENT OF OVERSIGHT FINDINGS AND RECOMMENDATIONS OF THE COMMITTEE

In compliance with clause 3(c)(1) of rule XIII and clause (2)(b)(1) of rule X of the Rules of the House of Representatives, the Committee's oversight findings and recommendations are reflected in the descriptive portions of this report.

STATEMENT OF GENERAL PERFORMANCE GOALS AND OBJECTIVES

H.R. 3293, the Scientific Research in the National Interest Act, would provide for greater accountability in Federal funding for scientific research at the National Science Foundation and promote the progress of science in the United States that serves the national interest.

DUPLICATION OF FEDERAL PROGRAMS

No provision of H.R. 3293 establishes or reauthorizes a program of the Federal Government known to be duplicative of another Federal program, a program that was included in any report from the Government Accountability Office to Congress pursuant to section 21 of Public Law 111–139, or a program related to a program identified in the most recent Catalog of Federal Domestic Assistance.

DISCLOSURE OF DIRECTED RULE MAKINGS

The Committee estimates that enacting H.R. 3293 does not direct the completion of any specific rule makings within the meaning of 5 U.S.C. 551.

FEDERAL ADVISORY COMMITTEE ACT

The Committee finds that the legislation does not establish or authorize the establishment of an advisory committee within the definition of 5 U.S.C. App., Section 5(b).

UNFUNDED MANDATE STATEMENT

Section 423 of the Congressional Budget and Impoundment Control Act (as amended by Section 101(a)(2) of the Unfunded Mandate Reform Act, P.L. 104–4) requires a statement as to whether the provisions of the reported include unfunded mandates. In compliance with this requirement the Committee has received a letter from the Congressional Budget Office included herein.

EARMARK IDENTIFICATION

H.R. 3293 does not include any congressional earmarks, limited tax benefits, or limited tariff benefits as defined in clause 9 of rule XXI.

COMMITTEE ESTIMATE

Clause 3(d)(2) of rule XIII of the Rules of the House of Representatives requires an estimate and a comparison by the Committee of the costs that would be incurred in carrying out H.R. 3293. However, clause 3(d)(3)(B) of that rule provides that this requirement does not apply when the Committee has included in its report a timely submitted cost estimate of the bill prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act.

BUDGET AUTHORITY AND CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

With respect to the requirements of clause 3(c)(2) of rule XIII of the Rules of the House of Representatives and section 308(a) of the Congressional Budget Act of 1974 and with respect to requirements of clause (3)(c)(3) of rule XIII of the Rules of the House of Representatives and section 402 of the Congressional Budget Act of 1974, the Committee has received the following cost estimate for H.R. 3293 from the Director of Congressional Budget Office:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, November 17, 2015.

Hon. LAMAR SMITH,
Chairman, Committee on Science, Space and Technology,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 3293, the Scientific Research in the National Interest Act.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Marin Burnett.

Sincerely,

KEITH HALL.

Enclosure.

H.R. 3293—Scientific Research in the National Interest Act

H.R. 3293 would require that new National Science Foundation (NSF) grants advance the national interest, as defined in the bill, before funding may be awarded by the agency. Examples of advancing the national interest would include increasing economic competitiveness, advancing the health and welfare of the public, or supporting the national defense of the United States. Under the legislation, NSF also would be required to make a public announcement of each award of federal funding and explain how it would advance those interests.

The legislation would not change NSF's authority to make grants and, based on information from NSF, CBO expects that explaining how the agency's grants advance the national interest would not increase the foundation's administrative expenses.

Enacting H.R. 3293 would not affect direct spending or revenues; therefore, pay-as-you-go procedures do not apply. CBO estimates that enacting H.R. 3293 would not increase net direct spending or on-budget deficits in any of the four consecutive 10-year periods beginning in 2026.

H.R. 3293 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act.

The CBO staff contact for this estimate is Marin Burnett. The estimate was approved by H. Samuel Papenfuss, Deputy Assistant Director for Budget Analysis.

MINORITY VIEWS

H.R. 3293 continues the Majority's efforts to impose a layer of political review on NSF's gold-standard merit-review system. Many in the Majority have been clear in their own belief that many grants that have successfully passed merit-review are not worthy of federal funding, according to each of their own subjective definitions of "worthy." And that determination most often seems to be based on how silly the title of a research grant seems to such Members.

As the Ranking Democratic Member of the Committee on Science, Space, and Technology, I feel it is not our job nor our intent to defend every NSF grant. Most Members of Congress lack the relevant expertise to fairly evaluate the merits or value of any particular grant. We cannot state with certainty that every one of the 11,000 NSF grants awarded each year is worthy by any and all definitions, and, there may be room for debate on a few of those 11,000. However, the appropriate forum for that debate is the NSF's world renowned, and much replicated merit-review process, not the halls of Congress. If we do not trust the Nation's scientific experts to make that judgment on whether a scientific grant is worthy of funding or not, then who are we to trust? The clear intent of this bill is to change how NSF makes funding decisions, according to what some Majority Members believe should or shouldn't be funded.

I also remain concerned that another, perhaps unintended consequence, of this bill will be to inhibit high-risk, high-reward research in all fields. We've heard from many scientists who are concerned that NSF, because of political pressures and budget constraints, is already pushing scientists to justify everything according to short-term return. This will necessarily reduce the ability of NSF and U.S. scientists to conduct truly transformative research. Whatever pressure NSF may already feel from this Committee and others in Congress, this bill only reinforces that pressure manyfold. The message this bill is sending to every single scientist applying for NSF funding, every single scientist sitting on a review panel is, don't take risks, because anything you do that invites any attention from Congress will lead to significant and undeserved harassment, and may even endanger your career. What this bill may really do is squelch creativity, risk-taking, critical thinking, and the open exchange of ideas.

Further, the Majority is pushing this agenda in the complete absence of any actual problem being identified with NSF's current policy, with which this bill is supposedly aligned. If the existing policy is working, we question the need to move forward with the bill. We are unaware of any scientific society, research university, or member of the National Science Board that has recommended the language in this bill, and most have expressed concerns. Yet

again, this Committee, under Republican leadership, is ignoring the scientific community we are supposedly here to support.

In staff-level discussions leading up to the markup, Democratic Members made an offer of a simple 31-word addition to the bill which would have made this bill palatable. One change would have allowed the "national interest" review to occur at the portfolio level rather than at the individual grant level. The notion that every single narrowly focused, and sometimes esoteric research project must, by itself, be justified by a "national interest" criterion, is antithetical to how basic research works. Another change would have connected the requirement for every grant to be certified as "worthy of federal funding" directly to the NSF merit-review process, rather than leaving it in the hands of Congress to be the final arbiter of what grants are or are not "worthy." Both changes were unfortunately rejected by the Majority. Such a simple 31-word addition to the bill would have sent a clear signal to the scientific community that it is not the intent of this Committee to politicize grant-making at NSF. The rejection of such an addition lays bare the true intent of the Majority.

I would be remiss not to remind our colleagues and the American public that many grants that were once mocked in the halls of Congress, or that might otherwise have been deemed "silly" or "unworthy of federal funding" led eventually to tremendous economic, health, national security, and/or other benefits for our nation. Here are few such examples:

- In 1955, the U.S. Department of Agriculture funded a study named, "The Sex Life of the Screwworm." This grant was mocked on the Senate floor as an example of government waste, and instigated the creation of a "Golden Fleece Award." Screwworms feed on living tissue, often killing the host, and were a huge menace in the cattle industry. The initial grant was for $250,000. The outcome of that grant saved the cattle industry $20 billion in the U.S. alone, resulting in a 5 percent reduction in the price of beef. The Senator who mocked the grant later apologized.
- In the early 1960's NSF and NIH funded a marine biologist to study why jellyfish glow green, a topic that would surely have caught the attention of our Majority as being "unworthy" of federal funding. When this biologist, who was just following his scientific curiosity, isolated the green fluorescent protein from jellyfish in 1962, neither he nor his funders had any idea that his work would one day lead to advances in genetics, cell biology, developmental biology, and neurobiology, to a better understanding of cancer, brain diseases such as Alzheimer's, and other human diseases, and methods used widely by the pharmaceutical and biotechnology industries. In 2008, this work won a Nobel Prize.
- In 2006, NSF funded a $147,000 study named, "Accuracy in the Cross-Cultural Understanding of Others' Emotions." In 2007, this grant was mocked on the House Floor as an example of government waste. In notable contrast, the Department of Defense and the Department of Homeland Security were both keenly interested in this research because of its application to soldiers operating among potentially hostile foreign popu-

lations, and to Transportation Security agents trying to detect any potential terrorists among travelers coming from all over the world. The scientist behind this work has been invited to speak to officials at both agencies many times.

Regarding these and many other "silly science" examples, who's laughing now? The whole idea of basic research is that the potential outcomes are largely unknown and often unpredictable. The idea is that we fund our greatest scientific minds to follow their curiosity, often to paths unknown, and that in the aggregate, our investment will pay off exponentially. That promise has become reality ever since the federal government began investing heavily in academic research at the end of WWII.

Democratic Members agree entirely with the requirement that NSF publish more clearly written abstracts of its funded work in order to better communicate to the public how taxpayer dollars are being spent. The NSF should be fully transparent in what it funds. The good news is that anyone can already go to NSF's website to read about every single one of the 11,000 awards made every year. That has been the case for many years. And, in recent years, NSF has made significant progress toward making sure all of those 11,000 abstracts are written clearly, with the general public in mind. To the extent that the bill requires clearly written abstracts, we can agree. However, this is where the agreement with the Majority ends. I, along with many Democratic Members of this Committee, simply cannot support an effort that politicizes NSF funded science, and undermines the very notion of basic research.

EDDIE BERNICE JOHNSON,
Ranking Minority Member.

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