

Calendar No. 384

114TH CONGRESS }
2d Session }

SENATE

{ REPORT
114-224 }

FAIR ACCESS TO SCIENCE AND
TECHNOLOGY RESEARCH ACT OF 2015

R E P O R T

OF THE

COMMITTEE ON HOMELAND SECURITY AND
GOVERNMENTAL AFFAIRS
UNITED STATES SENATE

TO ACCOMPANY

S. 779

TO PROVIDE FOR FEDERAL AGENCIES TO DEVELOP PUBLIC
ACCESS POLICIES RELATING TO RESEARCH CONDUCTED BY
EMPLOYEES OF THAT AGENCY OR FROM FUNDS ADMINISTERED
BY THAT AGENCY



MARCH 8, 2016.—Ordered to be printed

U.S. GOVERNMENT PUBLISHING OFFICE

59-010

WASHINGTON : 2016

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**FAIR ACCESS TO SCIENCE AND TECHNOLOGY RESEARCH
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Mr. JOHNSON, from the Committee on Homeland Security and
Governmental Affairs, submitted the following

R E P O R T

[To accompany S. 779]

The Committee on Homeland Security and Governmental Affairs, to which was referred the bill (S. 779) to provide for Federal agencies to develop public access policies relating to research conducted by employees of that agency or from funds administered by that agency, having considered the same, reports favorably thereon with an amendment and recommends that the bill, as amended, do pass.

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I. PURPOSE AND SUMMARY

S. 779, the Fair Access to Science and Technology Research Act of 2015, would require Federal agencies with annual research expenditures of over \$100 million to develop policies that provide for free public access to the manuscripts resulting from Federally-funded research or the peer-reviewed published journal articles if the publisher consents to free publication, within one year after publication. The bill is prospective and only applies to research projects for which Federal funding is awarded after the date of enactment.

II. BACKGROUND AND THE NEED FOR LEGISLATION

Each year the Federal Government funds billions of dollars in basic and applied research.¹ As part of the research process, researchers generally summarize their results in articles that are peer-reviewed by relevant scientific experts. The end product of this process is typically published in an academic journal. Usually, to gain access to these articles consumers must pay a one-time fee or have a subscription to the academic journal publishing the article.²

Because American taxpayers fund this research, it is important that they have free access to the results of the research. Over the past decade, there has been an accelerating recognition of the opportunity to increase the social and economic return on research by expanding the free accessibility of scientific articles to the general public.³

In 2008, Congress directed the National Institutes of Health (NIH) to require the deposit of manuscripts that summarize the findings of research funded by NIH into PubMed Central (PMC),⁴ a free, Internet-accessible archive of full text articles from peer-reviewed biomedical journals.⁵ The NIH is the world's largest funder of biomedical research, funding approximately \$30 billion per year in basic and applied research.⁶ Approximately 100,000 articles are published each year reporting on this research.⁷ The 2008 requirement is a term and condition of extramural grants and contracts awarded.⁸ Since this policy was implemented, an average of 6,500 NIH-funded articles per month have been added to the database through a combination of author and publisher submissions.⁹ The manuscripts are made freely available to the public after an embargo period, which cannot exceed 12 months.¹⁰ This database, which now contains more than 3.6 million research articles and is used by more than 1 million people per day,¹¹ provides the NIH—and the public—with a comprehensive collection of peer-reviewed articles summarizing NIH-funded research.

With input from the National Science and Technology Council, on February 22, 2013, the Office of Science and Technology in the Executive Office of the President instructed each Federal agency with over \$100 million in annual research and development expendi-

¹ NIH Budget—*About NIH—National Institutes of Health* (Jan. 20, 2016), <http://www.nih.gov/about-nih/what-we-do/budget>.

² Ian Sample, *Harvard University says it can't afford journal publishers' prices*, *The Guardian* (Apr. 24, 2012, 12:45 PM), <https://www.theguardian.com/science/2012/apr/24/harvard-university-journal-publishers-prices>.

³ The Committee for Economic Development, *The Future of Taxpayer-Funded Research: Who Will Control Access to the Results*, 9 (2012), available at <https://www.ced.org/pdf/The-Future-of-Taxpayer-Funded-Research.pdf>.

⁴ Pub. L. No. 110–161, Division G, Title II, Section 218 (Consolidated Appropriations Act, 2008).

⁵ PMC Overview, *Free Access: A Core Principle of PMC* (Sept. 18, 2015), <http://www.ncbi.nlm.nih.gov/pmc/about/introl/>.

⁶ NIH Budget—*About NIH—National Institutes of Health* (Jan. 20, 2016), <http://www.nih.gov/about-nih/what-we-do/budget>.

⁷ National Institutes of Health, *The NIH Public Access Policy* (Apr. 2012), http://publicaccess.nih.gov/public_access_policy_implications_2012.pdf.

⁸ National Institutes of Health, *Plan for Increasing Access to Scientific Publications and Digital Scientific Data from NIH Funded Scientific Research* (Feb. 2015), available at <http://grants.nih.gov/grants/NIH-Public-Access-Plan.pdf>.

⁹ NIHMS Statistics: Monthly Aggregate Submission Statistic (Jan. 20, 2016), <http://nihms.nih.gov/stats/>.

¹⁰ *Id.*

¹¹ U.S. National Library of Medicine, *PubMed Central* (Jan. 20, 2016), <http://www.ncbi.nlm.nih.gov/pmc/>.

tures to develop a plan supporting increased public access to the results of Federally-funded research.¹² The directive set specific objectives for each agency to follow while it developed its plan.

The Fair Access to Science and Technology Research Act of 2015 builds upon the 2013 directive and the 2008 requirement for NIH by requiring all agencies with annual research expenditures of over \$100 million to develop policies that provide for free public access to the manuscripts of research generated from taxpayer-funded grants. If the publisher of the research consents, the peer-reviewed articles are posted as well.

Recognizing the different business models used by publishers that manage the peer review process and the editing and distribution of research articles, the legislation provides for a maximum one-year embargo after publication before articles resulting from Federally-funded research must be made freely available online. It provides a process by which stakeholders can petition to adjust the embargo period, and it exempts certain types of research output from public release.

The bill also requires the Government Accountability Office (GAO) to report to Congress on the new process for public access to taxpayer-funded research.

III. LEGISLATIVE HISTORY

S. 779, the Fair Access to Science and Technology Research Act of 2015, was introduced on March 18, 2015, by Senators John Cornyn and Ron Wyden, and was referred to the Committee on Homeland Security and Governmental Affairs. Senators Ed Markey and Brian Schatz were added as co-sponsors to this bill on July 22, 2015.

The Committee considered the bill at a July 29, 2015, business meeting and ordered the bill reported favorably by voice vote, as amended by a substitute amendment offered by Senators Johnson and Carper. Members present for the vote were Senators Johnson, Portman, Lankford, Ernst, Sasse, Carper, Baldwin, Heitkamp, and Peters.

IV. SECTION-BY-SECTION ANALYSIS OF THE BILL, AS REPORTED

Section 1. Short title

This section provides the bill's short title, the "Fair Access to Science and Technology Research Act of 2015."

Section 2. Findings

This section states five Congressional findings related to the value of Federally-funded research to the general public and the scientific community.

Section 3. Definition of Federal agency

This section defines the term "Federal Agency".

¹²Memorandum For The Heads of Executive Departments and Agencies, from John P. Holdren, Director of White House Office of Science and Technology (Feb. 22, 2013), available at https://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf.

Section 4. Federal research public access policy

Section 4 requires Federal agencies with over \$100,000,000 in extramural research expenditures to develop a Federal research public access policy. Each policy must include the following requirements: (1) submit an electronic version of the final manuscript or original research papers to a digital repository; (2) incorporate changes from the peer review publication process; (3) replace the final manuscript with the final published version if certain conditions are met; (4) provide free online public access to the final peer-reviewed manuscript or published version within an appropriate time period; (5) allow members of the public and other stakeholders to request to adjust the time period before a final peer reviewed manuscript is made publicly available; (6) provide research papers in a format that enable reuse of the research and computational analysis; (7) improve the ability of the public to locate and access research papers made accessible under this policy; and (8) provide long-term preservation and free public access to published research findings.

This section also specifies to whom agency public access policies apply and provides for exclusions to certain types of scientific information this policy shall not apply to, including research progress reports and presentations at professional meetings or conferences; laboratory notes, preliminary data analyses, notes of the author, phone logs, or other information used to produce final manuscripts; and classified research, research resulting in works that generate revenue or royalties for authors (e.g., books) or patentable discoveries, and authors who do not submit their work to a journal or works that are rejected by journals.

The bill expressly states that it shall not be construed to affect any rights under Federal copyright, patent, or trademark laws under the provisions of titles 17 and 35, United States Code. The language in section 4(e) also ensures agencies implement public access policies in a manner consistent with copyright law.

Finally, section 4 provides for a GAO report to be published no later than three years after the date of the enactment and every five years thereafter. The report shall include an (1) analysis of the period between the date on which each paper becomes publicly available in a journal and the date on which the paper is in the online repository of the applicable Federal agency; and (2) examines the effectiveness of the Federal research public access policy in providing the public with free online access to papers on Federally funded research. In doing so, the report shall provide an analysis on whether the current legislation is effective at enabling productive reuse of the research and computational analysis by state-of-the-art technologies; and examine whether such research papers should include a royalty-free copyright license that permits the reuse of those research papers, on the condition that attribution is given to the author or authors of the research.

V. EVALUATION OF REGULATORY IMPACT

Pursuant to the requirements of paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee has considered the regulatory impact of this bill and determined that the bill will have no regulatory impact within the meaning of the rules. The

Committee agrees with the Congressional Budget Office's statement that the bill contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

VI. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

AUGUST 25, 2015.

Hon. RON JOHNSON, *Chairman,*
Committee on Homeland Security and Governmental Affairs,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 779, the Fair Access to Science and Technology Research Act of 2015.

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

Sincerely,

KEITH HALL.

Enclosure.

S. 779—Fair Access to Science and Technology Research Act of 2015

S. 779 would require federal agencies that spend \$100 million or more annually on extramural research activities to make the results of such research freely available on the Internet. The bill also would direct the Government Accountability Office (GAO) to issue reports on the effectiveness of this bill in making government research available to the public.

CBO estimates that implementing S. 779 would not have a significant federal cost. The bill could affect direct spending by agencies not funded through annual appropriations; therefore, pay-as-you-go procedures apply. CBO estimates, however, that any net increase in spending by those agencies would not be significant. Enacting S. 779 would not affect revenues.

Most of the provisions of the bill would codify and expand current policies and practices of federal agencies. A memorandum from the Office of Science and Technology Policy dated February 22, 2013, included a requirement that agencies develop and implement plans to make research funded by the federal government more widely available to the public. Consequently, CBO estimates that implementing this bill would not significantly increase the workload or administrative costs of federal agencies.

S. 779 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act. Any costs incurred by public entities, such as public universities and research institutions participating in federal research programs would be incurred as conditions of receiving federal assistance.

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

VII. CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

Because this legislation would not repeal or amend any provision of current law, it would make no changes in existing law within the meaning of clauses (a) and (b) of paragraph 12 of rule XXVI of the Standing Rules of the Senate.

