March 9, 2022

CONGRESSIONAL RECORD — HOUSE

H1799

the top 10 construction projects that are needed but unfunded in its fiscal year 2023 budget request, along with any unmet repairs that result from damage from wildfires, hurricanes, and other natural disasters.

OFFICE OF INSPECTOR GENERAL

The agreement includes $45,300,000 for the Office of Inspector General.

ADMINISTRATIVE PROVISIONS

(INCLUDING TRANSFERS OF FUNDS)

NARA is directed to provide any notification under section 2044(b)(4) of title 52, United States Code.

The agreement permits various transfers of funds. No more than 20 percent or $50,000,000, whichever is less, of the amounts made available in the current-year CECR appropriation may be applied to CECR projects funded under previous years’ appropriation acts. Use of port amount provides further direction regarding program levels cited within the agreement’s intent to award a contract, grant, or cooperative agreement that shall be treated as a reprogramming of funds under section 505 of this Act and such funds shall not be available for obligation except in conformance with the procedures set forth in that section.

The agreement also includes a provision providing NARA the authority to combine amounts from the following: Aeronautics, Space Technology, Exploration, and Space Operations appropriations with amounts from the STEM Engagement appropriation to jointly fund discrete projects or cooperative agreements, that serve these purposes. NARA is directed to provide notification of the Agency’s intent to award a contract, grant, or cooperative agreement that would be jointly funded under this authority, no less than 15 days prior to award.

The agreement includes $8,388,000,000 for the National Science Foundation (NSF). The agreement does not adopt the amounts provided in the prefinal matter of the House report and instead provides further direction regarding program levels cited within the appropriate NSF Divisions including Research and Related Activities, Major Research Equipment and Facilities Construction, Education and Human Resources, Agency Operations and Award Management, National Science Board, and Office of Inspector General.

Broadening Participation.—The agreement includes increases that are aimed to support Broadening Participation in STEM programs. An increase to the number of students who require hands-on scientific ideas and NSF is encouraged to ensure the Foundation partners with communities with significant populations of underrepresented groups within STEM research and education as well as the STEM workforce.

Graduate Research Fellowship Program (GRFP).—In lieu of House language regarding the consolidation of GRFP, the bill includes language allowing the transfer of up to $148,000,000 from Research and Related Activities to Education and Human Resources to permit NSF to consolidate the GRFP. The agreement also provides $148,000,000 for GRFP within Education and Human Resources.

RESEARCH AND RELATED ACTIVITIES

The agreement includes $7,159,400,000 for Research and Related Activities (R&A).

Technology, Innovation, and Partnerships.—The agreement supports the new Directorate for “Technology, Innovation, and Partnerships (TIP)” within R&A that builds upon and consolidates existing NSF programs. TIP serves as a cross-cutting platform to advance science and technology research in disruptive and breakthrough technologies, to find solutions to national and societal challenges, to strengthen U.S. global competitiveness, and to provide training opportunities for the development of a diverse STEM workforce. NSF is encouraged to remember when funding such programs that good ideas and high-quality research are not bound to certain geographical areas but exist across the country.

Climate, Science and Sustainability Research.—The agreement provides no less than $900,000,000 for climate science and sustainability research through the U.S. Global Change Research Program and Clean Energy Technology.

Artificial Intelligence (AI).—The agreement provides no less than $148,000,000 for AI research. NSF is encouraged to increase the pipeline of students graduating with AI and data literacy through partnerships and cooperative agreements. The agreement reiterates House language to encourage NSF to continue its efforts in workforce development for AI and other emerging technologies, with focused outreach to community colleges, Historically Black Colleges and Universities, Hispanic Serving Institutions, Tribal Colleges and Universities, and other Minority Institutions.

Quantum Information Science.—The agreement includes $900,000,000 for quantum information science, including $170,000,000 for activities authorized under section 301 of the National Quantum Initiative Act (Public Law 115-368) and $50,000,000 for National Quantum Information Science Research Centers authorized in section 302 of Public Law 115-368.

Historically Black Colleges and Universities Excellence in Research (HBCU–EiR).—The agreement provides no less than $22,000,000 for the HBCU–EiR program.

Infrastructure Investments.—With NSF’s 10 Big Ideas as the funding for the fundamental scientific disciplines should be maintained. Unless otherwise noted, within amounts provided, NSF is directed to allocate no less than the fiscal year 2021 enacted levels to maintain its core research levels, including support for existing scientific research laboratories, observational networks, and other research infrastructure assets, such as the astronomy assets, the current academic research fleet, federally-funded research and development centers, and the national high performance computing centers.

Scientific Facilities and Instrumentation.—The agreement supports the continuation of operations at the Daniel K. Inouye Solar Telescope. NSF is encouraged to consider additional research efforts that will promote innovation, international collaboration, and enhance the nation’s innovative potential. The agreement provides $48,000,000 for the Innovation Corps.

Established Program to Stimulate Competitive Research (EPSCoR).—The agreement provides no less than $215,000,000 for the EPSCoR States Program. Within the amount provided, no more than 5 percent shall be used for administration and other overhead costs. EPSCoR is designed to spur innovation and strengthen the research capabilities of institutions that are historically underserved by Federal research and development funding.

Geosciences.—The agreement encourages NSF to undertake a study to identify, compile, and analyze existing nationwide data and conduct survey research as necessary to better understand the cyber workforce to help counter influence from foreign adversaries on the Internet and social media platforms. NSF is encouraged to invest in initiatives that will provide insight that can mitigate adversarial online influence, including by helping the public become more resilient to undue influence.

Relevant to the agreement recognizes the recent release by the National Academies of Sciences, Engineering, and Medicine (NAS) of the Decadal Survey, “Pathways toDiscovery in Astronomy and Astrophysics,” and the “Roadmap to Discovery in Astronomy and Astrophysics for the 2020s.”

The agreement notes that NSF is currently assessing how to best implement the recommendations included in the 2020 Decadal Survey. NSF is expected to include the appropriate levels of support for recommended research facilities and instrumentation in subsequent budget requests. NSF is also expected to support a balanced portfolio of advanced research, educational, and outreach programs that scientists and students engaged in ground-breaking research.
Navigating the New Arctic.—As NSF continues to navigate the New Arctic program, the Foundation is encouraged to formulate research programs leveraging expertise from across government and academia. The project is intended to emphasize changing marine ecosystems. NSF is encouraged to address Arctic change through dedicated research grants and coordination across multifaceted, experimental observation networks and other research infrastructure, and workforce training.

Sustainable Chemistry Research.—The agreement provides $21,000,000 for Sustainable Chemistry Research, including the Development, Evaluation, and Use of Chemicals with Reduced Exposure and Potential for Ecosystem Risk (MREFC), including the request for the continued construction of the Vera C. Rubin Observatory (previously known as the Large Synoptic Survey Telescope). The project is intended to address the significant challenges on the aquatic environment, to human health, and in the transport and migration of materials, waste management, and development of alternative materials.

Intense, Ultrafast Lasers.—As NSF is encouraged to continue planning and making the early stage investments needed to advance ultrafast and high power laser technologies to maintain U.S. leadership and implement the recommendations of the Brightest Light Initiative Workshop report in 2019 and associated NAS studies on the quantum revolution.

Re-Engineering Plastic Textiles.—As NSF is encouraged to take a comprehensive and coordinated approach to support research in plastic recycling and microplastics to address the significant challenges on the aquatic environment, public health, and in the transport and migration of materials, waste management, and development of alternative materials.

Disaster Research.—As NSF is encouraged to support research that enhances understanding of the fundamental processes underlying natural hazards and extreme events. NSF is encouraged to fund grants for meritorious research in fulfillment of the National Landslide Preparedness Act (Public Law 118–129).

MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION

The agreement provides $249,000,000 for Major Research Equipment and Facilities Construction (MREFC), including the requested levels for the continued construction of the Vera C. Rubin Observatory (previously known as the Large Synoptic Survey Telescope). This project is intended to provide grants to support the development of hands-on learning opportunities for K–12 students and those in afterschool activities and innovative learning opportunities such as robotics competitions.

Transformational Education Innovation and Transition Fund.—As NSF is encouraged to collaborate with the Department of Education on transformational education innovation and translation, including interventions grounded in scientific understanding to improve student outcomes and achievement. This may include instrumenting large-scale digital learning platforms to create research infrastructure that drives continuous improvement in the use of the learning sciences. NSF is encouraged to provide grants to support the learning needs of under-resourced and underrepresented student groups such as those in urban or rural communities.

AGENCY OPERATIONS AND AWARD MANAGEMENT

The agreement includes $400,000,000 for Agency Operations and Award Management (AOM).

Full Administration Costs.—In previous years, NSF has relied on transfer authority to cover the full cost of conducting its mission to advance basic science through research. In doing so, the true cost of agency administration was not readily apparent within each budget request. As the new TIP Directorate is being established, NSF has requested the opportunity to completely capture its administrative and workforce costs into a single location, without reliance on transfer authority. In support of this effort, the agreement provides a significant increase in AOM funding to enable NSF to reduce its reliance on transfers during fiscal year 2022.

NSF is encouraged to continue its collaborative work with the Office of Naval Research to identify opportunities for the VOX–SE field campaign in the southeastern United States. NSF is encouraged to continue to support the CyberCorps: Scholarships for Service, including $25,500,000 for the NSF INCLUDES program; $97,000,000 for the Robert Noyce Scholarship program; $21,500,000 for the NSF INCLUDES program; and $18,500,000 for the NSF Alliance for Graduate Education and the Professorate; $25,500,000 for Advancing the Next Generation of Academic Scientists and Engineers; $60,000,000 for Advancing STEM Learning; $8,500,000 for the Alliance for Graduate Education and the Professorate; $25,500,000 for Centers for Research Excellence; and $57,500,000 for the NSF Alliance for Graduate Education and the Professorate.

Cybersecurity Research.—As NSF is encouraged to support research that enhances understanding of the fundamental processes underlying natural hazards and extreme events. NSF is encouraged to fund grants for meritorious research in fulfillment of the National Landslide Preparedness Act (Public Law 118–129).
## COMMERCE, JUSTICE, SCIENCE, AND RELATED AGENCIES APPROPRIATIONS ACT, 2022

(Amounts in thousands)

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<th>FY 2022 Request</th>
<th>Final Bill</th>
<th>Final Bill vs Enacted</th>
<th>Final Bill vs Request</th>
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<td>National Science Foundation</td>
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<td>Research and related activities</td>
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