

Congress of the United States
House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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March 23, 2020

The Honorable John Yarmuth
Chairman
Committee on the Budget
U.S. House of Representatives
B-234 Longworth House Office Building
Washington, DC 20515

The Honorable Steve Womack
Ranking Member
Committee on the Budget
U.S. House of Representatives
134 Cannon House Office Building
Washington, DC 20515

Chairman Yarmuth and Ranking Member Womack:

Please find enclosed the Minority Views and Estimates of the Committee on Science, Space, and Technology on the FY 2021 Budget Request. Thank you for your consideration.

Sincerely,



Eddie Bernice Johnson
Chairwoman
Committee on Science, Space, and Technology

**Views and Estimates of the Committee on Science, Space, and Technology on
the FY 2021 Budget Request for Submission to the Budget Committee**

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Views and Estimates of the Committee on Science, Space, and Technology On the FY 2021 Budget Request for Submission to the Budget Committee

As was the case last year and the year before that, the President's Fiscal Year 2021 Budget Request reflects a lack of vision about the critical role that the nation's science and technology enterprise plays in ensuring our international competitiveness, promoting our citizens' quality of life, and protecting our national security. The Budget Request proposes deep cuts to vital research and development (R&D) programs and initiatives. America risks losing its preeminence in an increasing number of scientific and technological areas if we fail to make adequate investments in those areas.

Our message to the Budget Committee and the rest of Congress is a simple one: Namely, if enacted, the President's Fiscal Year 2021 budget request for the nation's R&D agencies would do serious harm to the nation both now and over the long term and it should be rejected by Congress.

The following sections address a few of the key areas that we believe are under threat and warrant increased investment rather than deep cuts.

National Science Foundation (NSF)

Funding for the National Science Foundation (NSF) has increased steadily in recent years, reaching \$8.3 billion in FY 2020. The nearly \$540 million cut proposed by the Administration for NSF in FY 2021 would represent a damaging step backwards for the agency. Our nation's leadership in science and technology is increasingly threatened across nearly all fields of science and engineering, including artificial intelligence, quantum science, and engineering biology, and research funded by NSF constitutes the very foundation of our entire science and technology enterprise. In addition, our nation faces an increasing demand for workers with STEM skills, and NSF is the leader in advancing innovation in STEM education at all levels.

We applaud the agency for sustaining its commitment to take bold new steps to transcend disciplinary boundaries and drive new frontiers in science and engineering through the 10 Big Ideas and the Convergence Accelerator. Our science agencies need to think big if they are to address society's most pressing scientific and technological challenges. We support the increases for research on

emerging technologies including artificial intelligence, quantum information science, and synthetic biology. However, it is short-sighted for these investments to come at the expense of the agency's support for other critical research and education activities. We urge sufficient funding to support these important technology areas while also sustaining investments in foundational research across all disciplines, broadening participation, and STEM education from K-12 through graduate student training. We also need to maintain progress on all of the ongoing projects within the Major Research Equipment and Facilities Construction Account.

National Aeronautics and Space Administration (NASA)

NASA's challenging and inspiring missions are a catalyst for our nation's economic growth, innovation, scientific advancement, and the development of our science, technology, engineering, and mathematics-based education and workforce. Given that, the President's Budget Request represents a missed opportunity. While it provides a 12 percent increase over the FY 2020 enacted appropriation for NASA—in large part to provide additional funding for the President's Artemis Moon-Mars program—a significant fraction of that increase would be obtained by cancelling a number of high-priority science missions and once again attempting to eliminate NASA's Office of STEM Engagement. While there is broad bipartisan support for a credible and sustainable program of human space exploration with the horizon goal of Mars, it should be pursued in a manner that is not premised on harmful cuts or cancellations to NASA's science and climate research programs or to its STEM education programs.

Department of Energy (DOE) R&D

The FY 2021 Budget Request would cut DOE's non-defense research, development, and demonstration budget by 34.8 percent overall compared to FY 2020 enacted levels, which would significantly harm the development of new clean energy technologies and do lasting damage to the U.S. research enterprise. These proposed cuts include the elimination of ARPA-E and the Loan Programs Office (LPO). Most of DOE's other energy technology offices would receive significant cuts from FY 2020 funding levels. The Office of Energy Efficiency and Renewable Energy (EERE) would receive the largest cut of 74.2 percent (or \$2.07 billion). EERE's primary mission is to "create and sustain American leadership in the transition to a global clean energy economy." EERE makes crucial investments in sustainable transportation (including energy storage), renewable energy, and energy efficiency. Nuclear Energy, which supports the development of advanced

nuclear energy technologies that may be critical to future emissions reductions, would also be cut by 21 percent (or \$313 million). Large reductions to so many of these clean energy programs would hurt the global competitiveness of the United States as well as our nation's ability to mitigate the rapidly growing impacts of climate change.

In addition, the Budget Request would cut the Office of Science by \$1.16 billion, or 16.6 percent, from FY 2020 enacted levels. The Office of Science is responsible for supporting some of the most important science and energy research programs and facilities in the country. Without consistent, strong investments, the world-class user facilities and national laboratories stewarded by the Office would experience setbacks in facility construction, operations, and critical upgrades to facilities that house sensitive equipment and host thousands of scientists annually.

National Institutes of Standards and Technology (NIST)

The National Institute of Standards and Technology (NIST) is one of the most important but underappreciated agencies in our Federal government. Unfortunately, the Administration's Budget Request would cut funding for NIST by nearly 31 percent in FY 2021, including a 13.5 percent cut to Scientific and Technical Research Services (STRS), which is NIST's core measurement research and standards account. Such a cut would result in the elimination of 479 employee positions. Much of this technical talent could be lost forever even if the budget rebounded in subsequent years. These cuts would set back progress in biosciences, environmental measurement, forensic science, advanced communications, materials, disaster resilience, and many more important but overlooked programs at NIST. Given the fact that NIST already lacks the resources it needs to lead on international standards setting across all technologies and sectors, including important industries of the future, these cuts would be a gift to China and our other competitors, ceding U.S. interests in important international standards that benefit our companies and economy. Finally, within STRS, the budget proposal seeks to cut funding at the Center for Neutron Research, an aging but critically important user facility.

The Administration is also proposing to once again dramatically decrease support for NIST's Industrial Technology Services (ITS) account. This decrease includes the elimination of the Manufacturing Extension Partnership (MEP) program. The MEP program has proven to be a successful model for federal-state partnerships

with significant payoff in economic growth and job creation across our nation. According to NIST, for every dollar of Federal investment, the MEP National Network generates \$29.5 in new sales growth for manufacturers and \$31.0 in new client investment. The ITS account also includes the Manufacturing USA network, which is coordinated through NIST and develops partnerships between companies, academia, and entrepreneurs to develop and deploy manufacturing technologies. Finally, the FY 2021 request would cut NIST's construction budget by \$77 million, or 66 percent. This proposal covers some basic maintenance of NIST facilities but would not meet the agency's needs. Many of NIST's facilities are aging or outdated. Based on Department of Commerce standards, roughly 60 percent of NIST's facilities are in poor to critical condition.

National Oceanic and Atmospheric Administration

The President's FY 2021 Budget Request proposes cuts of over \$727 million from NOAA programs and a reduction of 436 Full-Time Equivalent (FTE) positions. This is a 13.6 percent reduction in the agency's funding from the FY2020 Enacted Budget. These excessive cuts signal a retreat from NOAA's operational mission to understand and predict changes in climate, weather, oceans and coasts; share that knowledge and information; and conserve and manage coastal and marine ecosystems and resources. We cannot support these kinds of draconian cuts which endanger not only the vitality of the Agency itself but puts at risk the lives of millions of Americans that rely on the critical research, observations, and information produced by NOAA.

As NOAA celebrates its 50th anniversary this year, it is important to recognize the significant contributions the agency has made to the environmental understanding and protection of the nation since its inception. The proposed cuts to NOAA's funding for the National Climate Assessments, and reductions to NOAA's research and grants funding overall, would make it exceedingly difficult for the Agency to continue making strides in our understanding of climate change.

The President's Budget Request continues to propose reductions to critical earth and ocean observations, the tsunami warning program, marine debris removal and research, investments in numerical weather prediction models, funding for ocean exploration activities, and others along with eliminations or near eliminations of key programs like the National Sea Grant College Program, the Joint Technology Transfer Initiative, Regional Climate Services, the Air Resources Laboratory, the National Estuarine Research Reserve System, and the NOAA Office of Education. Climate competitive research, integrated water prediction, coastal zone

management grants, arctic and Antarctic research programs, and many others are also proposed to be eliminated in the President's budget. In addition, the President's Budget Request proposes an unacceptable reduction of 365 positions, including 227 FTEs, within the National Weather Service despite an ongoing shortage of weather forecasters. The importance of maintaining a fully functioning NOAA cannot be overstated. We need to ensure that NOAA has adequate resources to continue to meet its lifesaving mission.

Environmental Protection Agency (EPA)

The President's Budget for FY2021 requests \$6.7 billion for the Environmental Protection Agency, \$2.4 billion (or 26 percent) below the FY2020 enacted level of \$9.1 billion. The request for the Science & Technology programs within the EPA is \$485 million, which is \$232 million (or 32 percent) below the FY2020 enacted level of \$716 million. While it is encouraging to see modest budget increases in multiple research program areas to deal with PFAS, lead, and harmful algal blooms, it does not counter the fact that the R&D budget at the agency, primarily within the Office of Research and Development (ORD), has been proposed to be cut by approximately \$201 million (or 40 percent) from the FY2020 enacted appropriations across five of the six integrated and transdisciplinary research programs.

