

Congress of the United States
House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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March 8, 2019

The Honorable John Yarmuth
Chairman
Committee on the Budget
U.S. House of Representatives
204-E Cannon House Office Building
Washington, DC 20515

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

Chairman Yarmuth and Ranking Member Womack:

Please find enclosed the Majority Views and Estimates of the Committee on Science, Space, and Technology on the FY 2020 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 2020 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 2020 Budget Request for Submission to the Budget Committee

While it obviously is impossible to prepare a comprehensive review of the President's Fiscal Year (FY) 2020 budget request given that the FY 2020 budget request has not yet been released to Congress, we would note that in the President's FY 2019 budget request we witnessed a continued disregard for science as massive cuts were made to vital research and development (R&D) funding. Unfortunately, we again expect to see more proposed cuts in crucial funding areas like R&D, innovation, education, and technology in the FY 2020 request. We will not attempt to engage in detailed discussion of recommended funding levels for specific programs in these Views and Estimates. However, upon the release of the President's FY 2020 budget, we urge the Budget Committee, as it works to craft its Budget Resolution, to reject further cuts to civilian R&D and science and technology programs. These programs are vital to our scientific enterprise and further cutbacks would put our Nation's global competitiveness in jeopardy. We need to invest in our research agencies NASA, NOAA, NSF, NIST, DOE, EPA, and others that enhance America's economic strength, address our national priorities, advance knowledge, and inspire our youth.

Below are a few key priorities that we wanted to highlight. We hope they will be supported in the Budget Resolution presented to the House of Representatives.

Clean Energy Technologies

Department of Energy (DOE) funds a wide range of research, development, demonstration, and commercial application activities. Given the President's repeated promises to revitalize American infrastructure, and the need to transition to a clean energy economy, we believe strong investments across DOE's civilian energy activities should be a top priority. Instead, the Trump Administration has continually proposed cutting the Department of Energy's science and technology programs in its past budget requests. These proposed cuts would have significantly harmed the development of new clean energy technologies and done lasting damage to the U.S. research enterprise. Despite the proposed cuts for FY 2019, Congress provided DOE with an overall funding increase of 3.3% or \$1.14 billion over its FY 2018 level.

While the Administration requested the *elimination* of ARPA-E and the Loan Programs Office (LPO), Congress provided \$366 million for ARPA-E, a 3.6% increase from FY 2018, and maintained LPO's spending authority. Given ARPA-E's and LPO's strong records of success we support increased investments (in the case of ARPA-E) and increased leveraging of current statutory loan and loan guarantee authorities (in the case of LPO) going forward.

DOE's other energy technology offices received funding increases from Congress in FY 2019 despite the Administration proposing significant cuts in its request. These include the Office of Energy Efficiency and Renewable Energy, Fossil Energy R&D, and Nuclear Energy. The activities of the Office of Electricity and the Office of Cybersecurity, Energy Security, and Emergency Response were also slated for large decreases in FY 2019 by the Administration, which Congress rejected. To enhance these programs' roles in accelerating the United States toward a clean energy economy, we support continued increases to their funding well above inflationary levels.

The Trump Administration's FY 2019 request would also have cut the Office of Science's overall budget by 14% compared to FY 2018 funding levels. Yet the funding approved by Congress increased support for this Office by 5%, totaling \$6.59 billion. The Office of Science is responsible for carrying out some of the most important science and energy research programs in the world. Without consistent, strong investments, the world-class user facilities and national laboratories stewarded by the Office will experience setbacks in facility construction, operations, and critical upgrades. Within the Office of Science, Fusion Energy Sciences received a 6% (or \$32 million) funding increase, despite the Administration's proposal to cut this critical program by 36.1%. The ITER project, within the Fusion Energy Sciences program, ultimately received \$10 million more compared to FY 2018 in contrast to a 38.5% cut proposed by the Administration, but its overall funding still failed to meet the levels that DOE has projected are required to keep this project on schedule and minimize its cost. Due to the previous shortfalls in meeting the U.S. commitments to this project, the required investment in the U.S. contribution to the ITER project is now \$280 million in FY 2020, including \$100 million for the cash contribution to the ITER Organization. We would strongly urge that substantially stronger support for each of these programs be in the Budget Resolution.

Strong Environmental Protection Agency

Though a few will point to the successes of the Environmental Protection Agency (EPA) in protecting public health and the environment over the past 40 years as a reason to stop pushing for stricter limits on pollution, it is important to note that these protections must be sustained with robust funding for the Agency.

Maintaining clean air and water, and protecting our most vulnerable populations from environmental contaminants, is a continuing endeavor. We should be investing more in EPA, not less. America has proven that a strong economy and a healthy and safe environment are not mutually exclusive.

This Administration has sought to cut the overall budget of the Agency by over 25% in both the FY 2018 and FY 2019 proposed budget requests. The Office of Research and Development (ORD), responsible for crosscutting research programs that provide the scientific foundation for many of the Agency's regulatory actions, has seen dramatic proposed cuts from this Administration of almost 50% in both the FY 2018 and FY 2019 budget requests, with some programs proposed to be eliminated altogether. Fortunately, Congress has stepped in these past two years and rejected these drastic cuts.

The FY 2019 Omnibus Appropriations Act provided flat funding compared to the FY 2018 enacted budget for both the Agency overall, as well as the Science and Technology programs. The FY 2019 Omnibus bill also provides funding for extramural research through the Science to Achieve Results (STAR) Research Grants, which funds research that is unique to the EPA and is not funded anywhere else in the federal government.

We would urge the Budget Committee to continue on the path laid out in the FY 2019 Omnibus Appropriations Act and maintain the top-line funding for the Agency and the EPA's Science and Technology programs, while continuing to provide sustained funding for the Office of Research and Development to meet critical research needs.

Climate Change Research

Last year, the publication of the second volume of the Fourth National Climate Assessment made it clear that our climate is already changing and will affect all Americans across the country. Our coastal communities are being threatened by rising sea levels, strong storm surges, and heavy precipitation. We have seen unprecedented extreme weather events in 2017 and 2018 ranging from drought,

flooding, wildfires, and record heat and cold waves, which caused billions of dollars in disaster costs annually. These events are becoming more intense and frequent due to a changing climate, and will have numerous impacts to our public health, our economy, and our society.

Though our understanding of the physical drivers of climate change has improved, there is a clear need for continued sustained funding for research at agencies such as NOAA and NASA that will help inform robust solutions to one of our nation's greatest challenges: climate change.

Civil Space and Aeronautics

The National Aeronautics and Space Administration (NASA) has long been recognized as the world leader in aeronautics and space research and exploration. We support robust funding that will allow NASA to maintain a balanced and healthy portfolio of programs in aeronautics, Earth and space science, technology development, and human spaceflight and exploration, as well as allowing investments in the infrastructure that will be required if NASA is to carry out the tasks our nation has given it.

With respect to NASA, ensuring the health of all of NASA's mission areas will require, among other things, that: scientific priorities established by the National Academies decadal surveys continue to be supported; NASA's role in educating and inspiring the next generation is maintained through its educational programs; that NASA's space technology research and development program continues to support cross-cutting mission areas; and, that any new initiatives in exploration be funded through increasing NASA's topline budget and not by robbing Peter to pay Paul.

The FY 2019 NASA budget request of \$19.89 billion proposed to initiate a significant lunar exploration program by cutting high priority science and educational activities. In addition, the FY 2019 budget for NASA proposed a topline budget for NASA that was assumed to remain flat in the outyears. That approach is not one that facilitates sustainability, a much needed element of a long-term exploration program. Congress, in maintaining its strong, bipartisan support of NASA, appropriated \$21.5 billion for FY 2019, a \$1.6 billion increase over the enacted FY 2018 appropriation. In addition, Congress sustained funding for high-priority science and educational activities that were proposed to be eliminated in the FY 2019 budget proposal.

For FY 2020, we urge the Budget Committee to advocate for NASA funding that supports a robust, multi-mission agency, and that NASA's proposed outyear budgets reflect the resources required to maintain NASA's inspiring mission and global leadership in aeronautics, science, technology, and human exploration.

National Oceanic and Atmospheric Administration (NOAA)

The National Oceanic and Atmospheric Administration (NOAA) is responsible for collecting environmental data with its cutting-edge network of satellites and in-situ observations, and uses this data to protect life and property through weather forecasts and warnings of hazardous weather by the National Weather Service.

This Administration's last two budget requests have called for draconian cuts to the line offices within the Committee's jurisdiction, and has proposed deep cuts or complete elimination of numerous climate, oceanic, and atmospheric programs and grants. The FY 2019 Omnibus Appropriations Act provides \$5.4 billion for NOAA, almost \$900 million above the budget request, which includes funding for climate research, the National Weather Service, and procurement of future weather satellites.

We encourage the Budget Committee to maintain robust funding for NOAA across all line offices, especially for environmental data collection and scientific research needs to ensure the agency can continue to meet its critical mission.

It is also imperative that funding for the next generation of NOAA's weather satellites be maintained to ensure that those satellite programs remain on track for successful development and launch.

National Science Foundation (NSF)

Unfortunately, we expect another disappointing budget request for the National Science Foundation (NSF). NSF is the only federal agency to support basic research across all fields of science and engineering. At a time of increasing global competition and national urgency in critical research areas like quantum science, artificial intelligence, the future of work, and climate change, the Administration proposed a 4 percent cut to NSF for FY 2019, and an 11 percent cut in FY 2018. Congress had it right by appropriating a 4 percent budget increase for NSF in FY 2019. At a minimum, NSF should be funded at the FY 2019 level to support the cutting edge research that makes the U.S. the global leader in innovation.

National Institutes of Standards and Technology (NIST)

For two years in a row, the Administration requested significant cuts to the NIST budget. In FY 2018, it was a 24 percent cut, including a 13 percent cut to NIST's core measurement research and standards account, and complete elimination of the Manufacturing Extension Partnership (MEP) Program. There were cuts across the board, including in areas of immediate importance to U.S. competitiveness and national security. Two years in a row the Administration also proposed to slash funding for forensics research, including the elimination of funding for the Forensic Science Center of Excellence awarded in 2015, as well as funding for the Organization of Scientific Area Committees which led the forensic standards development process - even though the evidence is clear that there is much more work that needs to be done to strengthen forensic science and standards. The Administration also proposed to terminate support for three university-based testbeds under the Greenhouse Gas Measurements program, as well as for several other environmental measurements projects across NIST laboratories. The refusal to measure our changing environment doesn't mean it is not changing- it just means we won't have all the tools needed to prepare for and adapt to those changes. Even support for NIST's two major user facilities, the Center for Neutron Research and the NanoFab, was slated for cuts. We write this without an FY 2020 request in hand, but with little doubt that we will see an equally alarming budget request this year.

NIST is one of the most important but underappreciated agencies in our government. The work NIST does with its relatively modest budget yields incalculable benefits to the competitiveness of U.S. industry across all sectors while also protecting the security, privacy, safety, and wellbeing of all Americans. Any proposed cuts to NIST should be rejected. To the contrary, NIST is worthy of additional support in the Budget Resolution.

Department of Homeland Security (DHS)

DHS's Science and Technology (S&T) Directorate is responsible for providing the research and technology capabilities for the operational components of the Department. While the FY 2019 funding level of \$309 million represented a 2.5 percent decrease from FY 2018, it was still a clear rebuke of the Administration's FY 2019 proposal to cut the office by 29 percent. The Countering Weapons of Mass Destruction Office (CWMD), which combined the functions of the Domestic Nuclear Detection Office and the Office of Health Affairs, received a nearly 5

percent decrease in FY 2019. S&T and CWMD carry out critical research and development programs in cybersecurity, first responder technologies, critical infrastructure resilience, threat detection, and many more areas that keep Americans safe. For fiscal year 2020, we urge the Budget Committee to provide the level of funding necessary to fully support the work of both the S&T Directorate and CWMD Office.