

Congress of the United States
House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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March 9, 2018

The Honorable Steve Womack
Chairman
Committee on the Budget
B-234 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Womack,

Pursuant to Section 301(d) of the Congressional Budget Act of 1974, I am transmitting the Views and Estimates of the Committee on Science, Space, and Technology for Fiscal Year 2019. The Views of the Minority Members of the Committee are also attached.

Sincerely,



Lamar Smith
Chairman

Enclosure

Cc: The Honorable John Yarmuth, Ranking Member, Committee on the Budget
The Honorable Eddie Bernice Johnson, Ranking Member, Committee on Science, Space,
and Technology

THE VIEWS AND ESTIMATES
OF THE
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
FOR FISCAL YEAR 2019

In 2017, the House Committee on Science, Space, and Technology enacted five authorizations into law: the “American Innovation and Competitiveness Act,” for the activities of the National Science Foundation, the National Institute of Standards and Technology, the White House Office of Science and Technology Policy and other federal interagency science programs (P.L. 114-389), the “NASA Transition Authorization Act of 2017” (P.L. 115-10); the “Weather Research and Forecasting Innovation Act of 2017” and the “Tsunami Warning, Education, and Research Act of 2017” (P.L. 115- 25); and the “U.S. Fire Administration, AFG, and SAFER Program Reauthorization Act of 2017” (P.L. 115-98).

Already in the 115th Congress, the House Science Committee has passed H.R. 589, the Department of Energy Research and Innovation Act, and H.R. 4675 to authorize the activities of the DOE Office of Science, its National Labs and technology transfer efforts, and nuclear energy R&D capabilities; and H.R. 4376, H.R. 4377, and H.R. 4378 to authorize the construction and upgrades of large DOE basic research facilities infrastructure. These five bills are pending Senate action.

The Committee will continue to oversee and implement a legislative agenda with a focus on open and transparent taxpayer-supported science, basic research in the national interest, and mission-supporting technology development. It is this core focus, coupled with recent successfully enacted tax and regulatory reform, which is providing robust entrepreneurial economic growth, the creation of millions of good-paying, skilled private sector jobs, faster technological innovation, higher productivity gains, and enhanced international competitiveness and security.

The Committee on Science, Space, and Technology oversees agency budgets totaling over \$42 billion, most of which are focused on research and development (R&D). Reauthorizations of the science agencies under the Committee’s jurisdiction will allow the Committee to rebalance priorities and ensure that our nation’s science agencies are on a trajectory to keep America at the forefront of scientific knowledge and discovery. To maintain our competitive advantage, we must continue to support the fundamental R&D that enables private sector innovation in the creation and design of next generation technology.

The Committee seeks to increase support for basic research in the physical sciences. These are the areas with the greatest potential for scientific breakthroughs that will benefit new industries and U.S.

jobs. America's universities and research institutions carry out federally-funded basic and fundamental scientific research that drives new discoveries and innovations - creating new companies, new industries, more private sector jobs, and economic growth and security.

During the second session of the 115th Congress, the Committee will review the authorizations of agencies and programs within its jurisdiction and, specifically with regard to lapsed authorizations, determine which programs should be reauthorized. Each subcommittee is conducting oversight of the programs and offices within its jurisdiction, including holding hearings and requesting information from the Executive Branch in order to support these determinations.

The Committee expects to reauthorize key federal science agencies, including the National Aeronautics and Space Administration (NASA), the Department of Energy's (DOE's) Office of Science, the National Science Foundation (NSF), the National Institute of Standards and Technology (NIST), the National Oceanic and Atmospheric Administration's research, data, and weather programs, science and technology at the Department of Homeland Security, and research and development components within the Federal Aviation Administration, through which much of the research benefitting America's economic and national security is performed. The Committee will reauthorize these agencies in a pro-science, fiscally responsible manner.

National Aeronautics and Space Administration (NASA)

- With President Trump's enactment of P.L. 115-10, the NASA Transition Authorization Act of 2017, the Committee has reignited America's pioneering spirit for exploration of new frontiers and worlds through reinvigoration of our space science program with the entrepreneurial drive of commercial incentives and ideas.
- The Committee will push for full implementation of the policy provisions in P.L. 115-10, as well as for at least maintaining the Fiscal Year 2018 funding level established in this month's omnibus appropriations bill.
- Maintain the overall level of investment in NASA by reducing NASA Earth Science funding and reallocating the resulting savings to Planetary Science, Astrophysics, and Heliophysics.
- Ensure that the Space Launch System and Orion programs receive adequate funding to launch Exploration Mission 1 and Exploration Mission 2 on schedule.
- Fully fund the commercial cargo and crew programs and support commercial low earth orbit and lunar payload development.

National Science Foundation (NSF)

- The Committee will authorize NSF Research account funding at the Directorate level with 70% of the research funding allocated to the Mathematical and Physical Sciences Directorate, the Computer and Information Science and Engineering Directorate, the Biological Sciences Directorate, and the Engineering Directorate.

- The Committee will ensure that federally funded research conducted through NSF, and all agencies, is in the national interest. Throughout its history, the NSF has played an integral part in funding breakthrough discoveries in fields as diverse as mathematics, physics, chemistry, computer science, engineering and biology. A defined “national interest” requirement and criteria, enacted last year as part of the American Innovation and Competitiveness Act (P.L. 114-329), will go a long way towards ensuring the grant-making process at NSF is transparent and accountable to the American public.
- Last Congress, the president signed into law H.R. 1020, the “STEM Education Act of 2015.” The Committee will build off this progress and continue its work to improve coordination of science, technology, engineering, mathematics, and cyber (STEM) education activities across the Federal government and ensure the American workforce consists of experts in STEM fields. Unfortunately, America lags behind many other nations when it comes to STEM education. American students rank 19th in science and 31st in math out of 35 developed countries. A well-educated and trained high-tech workforce ensures our future economic prosperity. This means motivating more American students to study science, math, computing, and engineering so they will want to pursue these careers. To this end, the Science Committee has recently passed through the full House H.R. 3397, the Building Blocks of STEM Act, H.R. 4254, Women in Aerospace Education Act, H.R. 4323, Supporting Veterans in STEM Careers Act, and H.R. 4375, the STEM Research and Education Effectiveness and Transparency Act.

National Institute of Standards and Technology (NIST)

- The Committee will increase core lab funding for the transition of and to make available generic technology to innovative use in the NIST Scientific and Technical Research and Services account and for major lab renovations in the NIST Facilities account.
- The Committee will ensure that NIST remains a global leader in cybersecurity knowledge, scientific standards-setting, and research and analysis of federal agencies’ cyber security readiness. We must take advantage of NIST’s unique capabilities to both develop cybersecurity standards and guidelines, which NIST does now, and go further and help agency Inspectors General evaluate and assess the extent of federal agencies’ compliance with them under the Federal Information Security Management Act.

Department of Energy (DOE)

- The Committee seeks to prioritize basic research and science at the DOE National Labs consistent with H.R. 589, the Department of Energy Research and Innovation Act, which has already passed the House this Congress. The Committee seeks to enable researchers in all 50 states to have access to world-class user facilities, including supercomputers and high intensity light sources. Government subsidies that pick winners and losers diminish competition and rarely benefit the American taxpayer. A better role for the government is to support investments in basic scientific research in our universities and national labs.

- In addition to sustaining DOE's Office of Science account funding level in Function 250, as with NSF Directorate-level funding, DOE Science funding should be allocated by basic research program. The Committee will seek to prioritize Basic Energy Sciences, Advanced Scientific Computing Research, High Energy Physics, Nuclear Physics, and Fusion Energy Sciences offset by reducing Biological and Environmental Research.
- Reduce Energy Efficiency and Renewable Energy R&D and ARPA-E funding in Function 270.
- The Committee seeks to authorize nuclear R&D activities at DOE in accordance with House-passed H.R. 589 and H.R. 4378, the Nuclear Energy Research Infrastructure Act of 2017. The Committee's nuclear R&D policies harness and combine the strengths of the National Labs, universities, and the private sector in a National Reactor Innovation Center. H.R. 4378 authorizes construction of a Versatile Neutron Source user facility via funding allocated from within the DOE Office of Nuclear Energy. Advanced nuclear reactor technology provides a great opportunity to make reliable, emission-free electricity available throughout the industrial and developing world.

National Oceanic and Atmospheric Association (NOAA)

- Fund priority public safety NOAA Weather Research in the Office of Oceanic and Atmospheric Research at the \$131.5 million authorized in P.L. 115-25, the Weather Research and Forecasting Innovation Act of 2017, in Function 300. Saving lives and protecting property must be NOAA's primary mission.
- Provide \$6 million for the NOAA Commercial Weather Data Pilot project out of existing funding in the NOAA Procurement, Acquisition, and Construction account as authorized in P.L. 115-25.
- Improve weather observation data through the required use of observing system simulation experiments and next generation computing and modeling capabilities consistent with P.L. 115-25. This new law provides NOAA with the flexibility to buy new, affordable, and potentially better sources of data from the private sector that have the power to make real improvements to our weather forecasting capabilities and creates a much-needed new \$20 million technology transfer initiative in NOAA's Office of Oceanic and Atmospheric Research.
- Hundreds of millions of dollars in savings are available by reducing NOAA climate change programs and big, government satellite system costs.

Federal Aviation Administration (FAA)

- The Committee has provided a separate FAA Research, Engineering, and Development account reauthorization title as part of the FAA authorization legislation pending House consideration. FAA R&D of \$174 million in FY 2019 is authorized but rebalanced to prioritize the funding of aviation safety through the periodic testing and evaluation, verification and validation, and sustainment of the FAA's full spectrum of aviation systems. The FAA R&D title also supports FAA certification of new technologies, particularly unmanned aerial systems (UAS), into the national airspace system (NAS).

- FAA's Office of Commercial Space Transportation should be adequately funded at \$21.6 million to license and permit commercial launch or reentry activities without delay. The Office should focus and prioritize its resources in order to execute these statutory responsibilities.

Department of Transportation Surface Transportation Research & Development

- In December 2015, President Obama signed into law a five-year highway bill as P.L. 114-94. Among its provisions, the law authorizes funding for two technology deployment programs that cost \$80 million annually to be paid partially from highway research programs that are authorized at \$225 million a year. This will result in a one-third cut to highway R&D, effectively slashing future innovation in exchange for current infrastructure implementation. While not opposing technology deployment, doing so at the expense of R&D funds, without which there will be less transformational technology to deploy, is ill advised.

Environmental Protection Agency (EPA) Science

- EPA funding should be made contingent on the EPA Administrator requiring that all scientific and technical information and data relied on to support a risk, exposure, or hazard assessment; criteria document; standard; limitation; regulation; regulatory impact analysis; or guidance issued by the EPA is made publicly available. This requirement is fully consistent with and would enforce House-passed H.R. 1430, Chairman Smith's Honest and Open New EPA Science Treatment (HONEST) Act.

Department of Homeland Security Science and Technology (DHS S&T)

- R&D plays a critical role in supporting DHS' mission but the DHS S&T Directorate needs to be reorganized and reformed to better and more quickly support DHS component efforts to detect, prevent, mitigate, respond to, and recover from terrorist attacks. The DHS Domestic Nuclear Detection Office combines R&D with acquisition and deployment in effectively carrying out its mission to address nuclear terrorism. That model deserves serious consideration regarding chemical, biological, explosives, cybersecurity, border security, and lone wolf threats.

U.S. Global Change Research Program (USGCRP)

- The USGCRP is an interagency accounting of \$2.8 billion of federal spending on climate change research. Involving NASA, NSF, NOAA, NIST, DOE, EPA, and even USDA and the Department of Interior's U.S. Geological Survey, much is duplicative and poorly defined based on the Science Committee's oversight of these agencies under its jurisdiction. Given this fiscal irresponsibility, any funding that is part of the USGCRP should only be available contingent on a finding by the administration that it is not duplicative or wasteful based on a government-wide review of climate change research.