

**Congress of the United States**  
**House of Representatives**

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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March 1, 2013

The Honorable Paul Ryan  
Chairman  
Committee on the Budget  
207 Cannon House Office Building  
Washington D.C. 20515

Dear Chairman Ryan,

Pursuant to Clause 4(f) of House Rule X of the Rules of the House of Representatives for the 113<sup>th</sup> Congress and Section 301(d) of the Congressional Budget Act of 1974, as amended, I am transmitting the Views and Estimates, including Additional and Minority Views, of the Committee on Science, Space, and Technology for Fiscal Year 2014.

Sincerely,



Lamar Smith  
Chairman  
Committee on Science, Space,  
and Technology

**VIEWS AND ESTIMATES  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY  
FISCAL YEAR 2014**

President Obama has yet to transmit his budget request for Fiscal Year 2014 (FY14) to Congress. The following Views and Estimates of the Committee on Science, Space, and Technology are based on the President's last budget proposal over one year ago and vigorous oversight of the agencies and programs under the Committee's jurisdiction since that time.

**National Aeronautics and Space Administration (NASA)**

The National Aeronautics and Space Administration is our nation's primary civilian space and aeronautics research and development agency. The agency plans and executes missions that increase our understanding of Earth, the solar system, and the universe. NASA operates the International Space Station (ISS), a fleet of satellites throughout our solar system, Mars rovers, and a small number of research aircraft. NASA undertakes activities in technology development and transfer, and education and outreach. The agency also participates in a number of interagency activities such as the Next Generation Air Transportation System with the Federal Aviation Administration, information technology development, and climate change research. With the retirement of the Space Shuttle, America currently has no domestic capability to transport our astronauts to and from the International Space Station—a strategic national capability. NASA currently pays the Russians \$63 million per seat for each of our astronauts to hitch a ride.

Leadership in space exploration is a worthy goal, and by comparison, our nation spent as much on the so-called stimulus bill in 2009 as the entire NASA budget for the past 54 years. The Committee supported NASA's budget request of \$17.7 billion in FY13, which is \$58 million less (0.3 percent reduction) than appropriated amounts for FY12. For FY13, NASA is authorized to receive \$19.9 billion, and the Committee plans to re-authorize NASA for FY2014 in the coming months. Within that topline budget, however, the Committee remains concerned with the Administration's budget priorities for certain programs and the lack of leadership in space exploration, both human and robotic. The Administration is ceding America's leadership in space exploration and instead funding more environmental-monitoring satellites and studies.

NASA's Earth Science budget request of \$1.785 billion in FY2013 is over \$300 million more per year than the agency spent prior to the Obama Administration taking office. The Administration's budget request cut NASA's Planetary Science budget request by \$300 million in FY 2013. This prompted a senior NASA scientist and program manager with almost 33 years of experience to quit and speak out publicly against the Administration's budget proposal.

The Committee supports NASA's re-plan for the James Webb Space Telescope with a targeted launch date of fall 2018. The Administration failed to address known budget and schedule problems for several years due to the technical complexity of the project, which remains the top priority of the astronomy and astrophysics scientific community. The Committee will continue to closely oversee this program to ensure it remains on schedule and within budget.

The FY13 budget also includes increased funding for Space Technology development. The FY13 request seeks \$699 million, an increase of \$125.3 million or 21.8 percent above FY12 levels. The Committee generally supports technology development, but these funds are better spent in bringing NASA astronaut crew transport systems online operationally as soon as possible. American astronauts should be launched into space onboard American rockets, not Russian.

With regard to human space flight, the NASA Authorization Act of 2010 directed the Agency to prioritize development of the Space Launch System (SLS) and Multi Purpose Crew Vehicle (MPCV) to replace the Space Shuttle, which was retired in 2011. The Act also authorized NASA to continue activities related to development of a commercial crew launch system, but emphasized Congressional intent that NASA develop the SLS and MPCV as soon as possible to ensure U.S. backup access to the ISS in case commercial crew or cargo capabilities fail to materialize. NASA's budget proposes to reverse the priorities established by Congress in both authorization and appropriation legislation. NASA seeks to reduce funding for the SLS and Orion MPCV. Under this budget proposal, the SLS/MPCV system would not be operational until 2021.

The Committee finds it unacceptable for the U.S. to rely on the Russian Soyuz system. NASA needs to develop a vehicle to transport American astronauts to the International Space Station as soon as possible. We must keep an eye on safety and strategically balance the next steps of human exploration (e.g., the Moon, near-Earth asteroids, and Mars). However, all other priorities are secondary to this immediate goal of space transport.

While NASA's Commercial Crew program could be the primary means of transporting American astronauts, we cannot be solely reliant on this program. The Orion MPCV, Space Launch System, and Commercial Crew programs require a program track with a sufficient budget to support the Space Station as soon as possible in preparation for the next steps of human exploration beyond Low Earth Orbit and ensure American preeminence in space.

Due to a constrained budget environment, goals—such as maintaining 2.5 commercial teams or demonstration flights beyond low-Earth orbit—need to be secondary to the primary goal of developing a vehicle to safely transport American astronauts to the International Space Station and beyond. As Neil Armstrong testified before the Committee: “Access to low Earth orbit should be our primary objective in any plans in the evolutionary development of a new versatile lift vehicle with future deep space missions as a follow-on.”

### **National Science Foundation (NSF)**

The National Science Foundation provides over 20 percent of federal support for all basic research at U.S. colleges and universities and is second only to the National Institutes of Health (NIH) in support for all academic research. It is the primary source of federal funding for non-medical basic research. NSF provides approximately 40 percent of all federal support, and serves as a catalyst for science, technology, engineering, and mathematics (STEM) education improvement at all levels of education. It supports the fundamental investigations that ultimately serve as the foundation for progress in nationally significant areas such as national security (especially cybersecurity), technology-driven economic growth, energy independence, health care, nanotechnology, and networking and information technology. The Committee plans to re-authorize NSF for FY2014 in the coming months.

The FY13 budget request for NSF is \$7.4 billion, a 4.8 percent increase over the FY12 level. The Committee recognizes the importance of making appropriate investments in science and technology, basic research and development, and STEM education in order for the United States to remain a world leader in competitiveness and innovation. However, while we support a healthy budget for NSF, the Committee remains concerned that the Administration is diverting research and development (R&D) funds to its extreme environmental priorities rather than the merits cited earlier. For example, the NSF's contribution to the interagency US Global Change Research Program (with over \$2.5 billion requested in various agencies) has increased to \$333 million in FY 2013 from \$205 million in FY 2008, prior to this Administration taking office. Further, NSF's Science, Engineering, and Education for Sustainability (SEES) budget increases to \$203 million in FY 2013, and the Committee is concerned that NSF R&D on the SEES program to develop renewable energy technologies and conduct climate change research is duplicative of work at other agencies. Also, the House voted against funding the \$10 million request for the NSF's Climate Change Education Program in FY13.

Further, the NSF budget request for Social, Behavioral, and Economic Sciences (SBE) is over \$259 million in FY 2013, with significant, preceding annual increases. The Committee is concerned that the Administration has lost sight of the NSF's core mission in support of the physical sciences when so much funding is provided for SBE. Several recent studies conducted using the NSF's SBE funding have been of questionable value, and something our nation can ill-afford. These SBE funds are better spent on higher priority scientific endeavors that have demonstrated return on investment for the American taxpayer.

### **National Institute of Standards and Technology (NIST)**

As a non-regulatory science agency that supports American commerce, NIST conducts high-quality research and develops technical standards that keep our industries globally competitive and benefit all Americans. In FY13, the Administration requested a funding level of \$857 million or a 14.1 percent increase from FY12 funding for NIST, and the House voted for a \$830 million appropriation for the agency.

The Committee recognizes the need for strengthening our nation's manufacturing sector and the need for ways to improve the transfer of federally-funded manufacturing research at universities and government laboratories to the private sector. The House approved \$128 million for NIST's Manufacturing Extension Partnership and \$21 million for the Advanced Manufacturing Technology program. However, as identified during Committee hearings in the last Congress, the Administration has not been forthcoming with basic information about its proposal of \$1 billion in mandatory spending for the National Network for Manufacturing Innovation (NNMI) to be managed by NIST. The Administration needs to be more forthcoming and transparent when proposing such costly initiatives. The Committee plans to re-authorize NIST for FY2014 in the coming months.

### **Department of Energy (DOE)**

The Department of Energy funds a wide range of research, development, demonstration and commercial application (RDD&CA) activities. The overall FY13 budget request for DOE is \$27.2 billion, which represents an \$856 million increase over FY12 levels. Over \$8.3 billion of this amount is within the Committee's jurisdiction. In response to the President's emphasis on

the promotion of green energy as a domestic policy priority, the balance of DOE RDD&CA activities within the Committee's jurisdiction has shifted significantly toward late-stage demonstration and deployment efforts. While the Committee supports an "all of the above" approach to reduce the cost of all energy sources, the Department's top RDD&CA priority should be basic research and foundational science centered on domestic energy resources. Basic research serves as a long-term economic driver and provides the foundation for sustainable growth, rather than short-term, potentially expensive commercialization activities that result in the government picking winners and losers in the energy technology marketplace. Additionally, the Committee is concerned that the Administration has created multiple, duplicative RDD&CA efforts throughout DOE and other research agencies to promote the Administration's preferred "green" energy technologies.

The Committee recognizes the unique role the Office of Science performs in the federal government's research enterprise. The Office of Science has an established record of making crucial scientific discoveries and serves as a long-term driver of innovation and economic growth through stewardship of world-class scientific facilities that deliver revolutionary scientific breakthroughs in numerous scientific disciplines. Accordingly, the Committee believes the Office of Science should be the highest priority for DOE RDD&CA programs. However, the Committee is concerned that the Atmospheric System Research and the Climate and Earth Systems Modeling programs are duplicative of research programs at the National Oceanic and Atmospheric Administration (NOAA) and the National Science Foundation (NSF). Additionally, although the Committee supports Fusion Energy Sciences within the Office of Science, the program is an area of concern due to high-risk program management associated with large-scale international projects.

In addition to receiving nearly \$17 billion in the 2009 stimulus bill, the budget for the Office of Energy Efficiency and Renewable Energy (EERE) has grown significantly in recent years. The Administration's FY13 budget request of \$2.3 billion for EERE represents a 29.1 percent (\$527.4 million) increase from the FY12 level. The Committee has held several hearings raising concerns about the DOE's unnecessary and inappropriate involvement in competitive private markets. This involvement often results in the government picking winners and losers among competing companies and technologies rather than letting the market decide. The Committee has also held hearings about the lack of transparency associated with EERE activities. The Committee has found several examples of wasteful spending of taxpayer funds.

The Committee has expressed its longstanding concerns regarding the focus and implementation of DOE's loan guarantee program. No funds should be provided for new loan guarantees, and the Committee recommends that \$170 million in unobligated funds appropriated in FY11 be rescinded.

### **National Oceanic and Atmospheric Administration (NOAA)**

NOAA's FY13 budget request is \$5.1 billion, an increase of \$153.9 million or 3.1 percent above the FY12 level. Within that amount, over \$2 billion is for the National Environmental Satellite, Data and Information Service (NESDIS), a \$163.6 million or 8.7 percent increase over FY12 levels. The NESDIS budget primarily funds the Joint Polar Satellite System (JPSS) and the Geostationary Operational Environmental Satellites (GOES) program.

The Committee's top priority for NOAA is rebalancing the agency's research portfolio to better predict severe weather to protect American lives and property. The Committee supports a

strong research enterprise at NOAA; however, the Administration continues to direct NOAA research funding increases almost exclusively to climate rather than weather. The Administration's most recent budget request would only exacerbate the imbalance between these priorities, resulting in a climate research budget three times larger than that for weather research (\$210 million vs. \$70 million, respectively). This portfolio is not in sync with the needs of the American public and should be rebalanced.

The Committee is gravely concerned with the cost, potential forthcoming gap in weather satellite data, and NOAA's mismanagement of the JPSS (currently estimated total cost for JPSS weather satellites is \$12.9 billion through 2028). For years, this program and its predecessor have been plagued with cost over-runs, poor management, agency infighting, technical problems and contractor mistakes. A recent review found NOAA's management still to be "dysfunctional" and elucidated on various management problems and recommended solutions. The Committee supports full-funding for the JPSS and GOES-R weather satellites, because they are too important to fail the American public. However, the Administration needs to practice greater transparency with independent cost estimates for these programs and encourage more proactive management within NOAA and the Department of Commerce. The Committee has been conducting on-going oversight of these programs.

The Committee generally supports the overall National Weather Service (NWS) budget request of \$972.2 million in FY13, a modest decrease from FY12. However, the Committee is concerned about the Administration's proposal to eliminate the NOAA Profiler Network, which monitors for tornados and other weather phenomena. This small but important program should be restored using funds designated for climate research.

Within the climate research program, the Committee supports the National Integrated Drought Information System, a vital research program for communicating drought information to the states.

### **Environmental Protection Agency (EPA)**

The Science and Technology (S&T) account at EPA is \$807.3 million in FY 2013 (a 17 percent increase) and \$576.6 million covers research and development activities at the Agency's Office of Research and Development.

The Administration's ambitious regulatory agenda is dependent on objective, transparent scientific and technical information. Unfortunately, Committee oversight efforts have identified numerous instances in which such information was distorted, withheld from peer review scientific scrutiny, and selectively used to advance a pre-determined agenda. As a result of EPA's advocacy-driven scientific activities and the lack of transparency in major environmental research funded by the Agency, the Committee sees fundamental reforms and adherence to the Administration's Scientific Integrity Policy as a prerequisite to funding this research.

Numerous problems with the Agency's Integrated Risk Information System (IRIS) have been highlighted by the National Academy of Sciences, the Government Accountability Office, and in testimony before the Committee. In light of these problems, the Committee recommends that resources be directed to ensure that all ongoing assessments adhere to more rigorous peer review, the requirements outlined in the conference report of the Consolidated Appropriations Act of 2012, and the recommendations in chapter seven of the National Academy of Sciences' Review of EPA's Draft IRIS Assessment of Formaldehyde.

## **Department of Homeland Security (DHS)**

The FY13 budget request for the Department of Homeland Security Science and Technology Directorate (DHS S&T) is \$831.5 million, an increase of \$163.5 million or 24.5 percent from the FY12 level. The FY13 budget for the Domestic Nuclear Detection Office (DNDO) is \$328 million, a \$38 million or 11.6 percent increase from the FY12 level.

The Committee recognizes the important role that research and development plays in supporting DHS's mission, and believes that the S&T Directorate should be provided with the resources it needs to keep our nation safe and our borders secure. However, in a constrained fiscal environment, it is essential that DHS gets the most out of each and every scarce dollar by providing tangible results that further the Department's mission, and coordinating with other agencies to maximize efficiencies.

## **Department of Transportation**

### ***Office of the Assistant Secretary for Research and Technology***

The FY 2013 budget request for the research activities currently managed by the ***Research and Technology Administration (RITA)*** is \$13.7 million. The Committee remains concerned that RITA and other DOT research is overly focused on ambiguous research topics at the expense of technical improvements to highway safety, infrastructure, and congestion.

### ***Federal Aviation Administration (FAA) – Research, Development and Technology***

The Administration's FY13 budget request provides a total of \$354 million for Federal Aviation Administration (FAA) research and development activities, a 16 percent decrease compared to the FY12 request. The Committee recognizes the importance of the FAA's practical research program for aviation safety.

### ***Office of Commercial Space Transportation (AST)***

The FY13 budget request for the Office of Commercial Space Transportation (AST) (operations) is \$16.7 million. AST is responsible for licensing and regulating commercial space launches and reentries to ensure compliance with standards designed to protect public safety. The Committee intends to conduct necessary and appropriate oversight of AST in re-authorizing its activities.

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