

Congress of the United States
House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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March 25, 2014

The Honorable Paul Ryan
Chairman
Committee on the Budget
207 Cannon House Office Building
Washington, DC 20515

Dear Chairman Ryan:

Pursuant to the provisions of clause 4(f) of House Rule X of the Rules of the House of Representatives for the 112th 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 2015.

Sincerely,



Lamar Smith
Chairman

cc: The Hon. Chris Van Hollen, Ranking Member, Committee on the Budget
The Hon. Eddie Bernice Johnson, Ranking Member, Committee on Science,
Space, and Technology

Enclosure

**VIEWS AND ESTIMATES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
FISCAL YEAR 2015**

The following Views and Estimates of the Committee on Science, Space, and Technology are based on the President's FY 2015 budget proposal transmitted to the Congress on March 4, 2014 for the agencies and programs under the Science Committee's jurisdiction.

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. NASA plans and executes missions that increase our understanding of Earth, the solar system, and the universe. NASA operates the International Space Station (ISS) and is developing the Orion crew vehicle and Space Launch System to launch American astronauts beyond low-Earth orbit. NASA operates and develops a fleet of satellites throughout our solar system, space telescopes, Mars rovers, and a 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. The Administration's budget request for NASA in FY 2015 is \$17.46 billion, which is \$185 million less than what Congress appropriated in FY 2014.

This Administration has been clear that space exploration is not high on its list of priorities for the past several years. This situation is not the fault of NASA, but the White House. It was the White House's decision to cancel the Constellation program in 2010, which—along with the retirement of the Space Shuttle—was a major blow to our nation's space program after billions were invested in building this program. NASA astronauts are now beholden to Russia to hitch a ride to space at a cost of \$70 million per seat, and many people question America's preeminence in space exploration as a result. Further, it was the White House's decision in 2012 to cancel a joint robotic mission to Mars along with our European allies, which led the European Space Agency to work with Russia instead of the United States in this endeavor. In the FY 2015 budget proposal, the White House is canceling SOFIA, a joint airborne observatory with the German Space Agency, after \$1 billion has been spent on its development and it is only beginning to produce scientific results.

These decisions by the White House—which NASA is simply told to execute—send a strong signal to our allies that this Administration lacks dedication when it comes to space exploration and that America is an unreliable partner in space endeavors. The Administration is ceding America's leadership in space exploration and instead places far higher priority in using NASA's funds for climate change satellites and studies.

Human Spaceflight

With the retirement of the Space Shuttle, America currently has no domestic capability to carry our astronauts to space—a strategic national capability. NASA currently pays the Russians over \$70 million per seat for each of our astronauts to hitch a ride. This price has increased over several years, and it is likely to increase in the future. This is the single greatest example of America’s leadership in space slipping under this Administration.

For this reason, the Committee remains dedicated to launching American astronauts on American rockets from American soil as soon as is practicably safe to do so. The NASA Authorization Act of 2013, passed by the Committee last year, authorizes \$700 million of government funding for NASA’s commercial crew program and reiterates its directive that the Orion crew vehicle and Space Launch System be developed as a back-up capability if the proposed commercial service runs into technical problems. NASA needs to focus this development effort toward meeting the primary goal of launching American astronauts as soon as possible rather than any secondary goals, such as developing a purported commercial market beyond NASA’s transportation needs to the International Space Station or using NASA’s government funds to carry more than one commercial provider.

For the third budget request in as many years, the Administration has set a budget for the Space Launch System and Orion crew capsule which are inadequate to meeting the Administration’s stated milestones. For the past several years, Congress has authorized and appropriated more funding for these systems than the Administration requested because the Congress believes in the importance of space exploration in spite of the President’s budget request. The Administration has routinely sought to undermine this priority, and does so again with its FY 2015 budget request. The Committee does not support the Administration’s request for the Space Launch System and Orion crew vehicle as it is insufficient to accomplish the stated goals and milestones for the program.

The Administration continues to pursue an uninspiring mission to robotically capture an asteroid the size of a large conference table and tow it back to lunar orbit for astronauts to rendezvous with it. This mission concept was dismissed by scientists, engineers, and NASA’s own advisory committees. Further, the President’s budget request includes allocating more resources to find and categorize small asteroids (less than 20 meters) for use in the proposed Asteroid Redirect Mission. The Committee believes it is time for the Administration to move on from this costly detour and pursue planning for missions better suited to the long-term goal of reaching Mars, perhaps including a flyby of the Red Planet to be launched in 2021.

Space Technology

The Congressional justification for the President’s budget request for FY 2015 describes work done within Space Technology Mission Directorate that clearly overlaps with other mission directorates. For example, NASA claims that the Exploration Technology Development program within the Directorate is for “advanc[ing] technologies required for humans to explore beyond low-Earth orbit.” However, the Human Exploration and Operations Mission Directorate

includes the Advanced Exploration Systems program which is described as “an innovative approach to developing foundational technologies and high-priority capabilities that will become the building blocks for future space missions.” This appears to demonstrate duplicative purposes. Similarly, it is unclear whether the Space Technology Mission Directorate is designed to support other mission directorate activities; technology gaps within NASA; or private sector interests. The Committee believes there is a need for innovative technology. However, it is far from clear how the current program meets those technology challenges in a meaningful or efficient way.

Science

While other NASA science divisions have been consistently asked to do more with smaller budgets, the Administration continues to request that Earth Science receive a disproportionate amount of funding, while cutting other highly productive areas like Planetary Science and Astrophysics. The FY 2015 budget requests \$1.77 billion, or 36 percent of the total Science Mission Directorate budget, be devoted to Earth Science. The budget request for Planetary Science is \$65 million less than the amount appropriated by Congress in FY 2014.

In Planetary Sciences, the budget identifies \$15 million for pre-formulation of a Europa mission, but it anticipates no out-year funding to spend on further development of a possible mission. This is unrealistic. The Administration has said that it will support a Europa Clipper mission, similar to the one outlined in the most recent decadal survey, but with funding capped to \$1 billion. A mission at that cost is not likely to meet science priorities of the scientific community.

The President’s budget request cuts the Astrophysics budget by \$61 million compared to the amount appropriated by Congress in FY 2014. Part of that reduction includes the elimination of SOFIA, an airborne infrared telescope that cost over \$1 billion to build and only recently reached operational status. Before NASA takes any action on the White House’s proposal to mothball SOFIA, NASA’s advisory council should evaluate the Administration’s proposal. At this time, the Committee does not support the Administration’s proposal to mothball the SOFIA aircraft based on the Administration’s budget justification.

The Committee supports 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, even though it 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.

Aeronautics

The Administration’s FY15 budget requests \$551.1 million for the Aeronautics Research Mission Directorate (ARMD), a 2.6% decrease from the \$566 million enacted in the FY14 appropriations bill. The Administration has reorganized ARMD from six research programs into four programs: three “mission” programs and one program focused on developing high-risk, forward thinking ideas. Though the Administration has identified several major activities under ARMD will be housed under the new organization, the challenge will be to ensure that those

initiatives continue to be run efficiently and effectively under the new organization, and that none of the functions of ARMD are lost. The Committee supports the development, transfer, and implementation of new technologies as part of the Next Generation air traffic control modernization as well as NASA's planned work integrating unmanned aerial systems (UAS) into the national airspace, supersonics, rotorcraft, and composite materials.

Education

The FY 2015 budget request for NASA education attempts to move forward the Administration's continued efforts to reorganize federal STEM education programming proposed last year without any input from STEM educators. The request of \$89 million is a \$28 million cut from the amount appropriated by Congress in FY 2014. While consolidation may be necessary to strengthen federal STEM programs, the Committee remains concerned that the proposed reorganization will adversely affect longstanding, hands-on STEM education opportunities provided by NASA researchers to students.

The National Science Foundation

The National Science Foundation (NSF) provides 24 percent of federal support for all basic research at U.S. colleges and universities, almost 2,000 institutions in all, and is second only to the National Institutes of Health in support for all academic research. It is the primary source of federal funding for non-medical basic research, providing approximately 40 percent of all federal support, and serves as a catalyst for science, technology, engineering, and mathematics (STEM) education improvement at all levels. Ninety-four percent of NSF funding goes directly toward basic research initiatives which support 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 Science Committee is currently reauthorizing the NSF for FY 2014 and FY 2015 in H.R. 4186, the Frontiers in Innovation, Research, Science and Technology (FIRST) Act. H.R. 4186 was approved by the Committee's Subcommittee on Research and Technology on a bipartisan basis on March 13 with full committee markup planned in April.

The FIRST Act, approved on a bipartisan basis by the Science Committee's Research and Technology Subcommittee on March 13, authorizes \$7.28 billion for the NSF in FY 2015, which represents a 1.5% increase from FY 2014 appropriations and is slightly higher than the President's budget request. The Committee recognizes the importance of making appropriate investments in science and technology basic research and STEM education in order that America remain a world leader in scientific and technical innovation that spurs our economy.

The Committee remains concerned that the Administration is diverting scarce NSF basic research funds to priorities that are better left to other federal agencies with more expertise and likely are duplicative of other efforts. For example, NSF proposes to spend \$362 million for clean energy research and \$139 million for the Science, Engineering, and Education for Sustainability (SEES) program. NSF's proposed contribution to the interagency US Global Change Research Program—with more than \$2.5 billion requested in various agencies—is \$318

million in FY 2015, a 50% increase since 2008. Further, the NSF budget request for Social, Behavioral, and Economic Sciences (SBE) is more than \$272 million in FY 2015, which represents an increase of 12.2% and 6.0%, respectively, over the FY 2013 and FY 2014 amounts. This increase is disproportionately larger than other research fields with a high return on investment. In fact, the Biology (BIO), Mathematical and Physical Sciences (MPS), and Computer and Information Science and Engineering (CISE) Directorates are targeted for cuts to their budgets. The Committee views these cuts as misguided and unjustified, as they amount to ceding our international advantage in research and development in these critical areas to countries such as China and South Korea. Further, the Committee is concerned that the Administration has lost sight of the NSF's core mission to support the physical sciences that lead to technological innovations and economic benefits. Several recent studies conducted using the NSF's SBE funding have been of very questionable value for an agency devoted to spur innovation and American competitiveness. Scientific endeavors in areas that have demonstrated return on investment for the American taxpayer deserve priority.

The Committee recommends the following directorate-level specifications of funding within NSF's Research and Related Activities account consistent with H.R. 4186 in FY 2015:

- Mathematical and Physical Science: \$1,399,400,000
- Computer and Information Science and Engineering: \$963,186,770
- Engineering: \$910,640,000
- Biological Science: \$760,030,000
- Geoscience: \$1,265,840,000
- International and Integrative Activities: \$400,000,000
- Social, Behavioral, and Economics: \$200,000,000
- United States Arctic Commission: \$1,400,000

The Committee recommends focusing any and all increases in NSF funding on the following four priority directorates: Mathematical and Physical Science; Computer and Information Science and Engineering; Engineering; and Biological Science. NSF operations should be held to the current \$298 million and the IG budget should be \$15.2 million.

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. The Administration's FY 2015 budget request includes a funding level of \$900 million, an increase of \$50 million or 5.9 percent from FY 2014 appropriation for NIST. The FIRST Act, approved on a bipartisan basis by the Science Committee's Research and Technology Subcommittee on March 13, authorizes \$863 million in FY 2015 for the Institute. Within this amount, the Committee prioritizes the fundamental, enabling core research of the NIST laboratories in the Scientific and Technical Research and Services account. Additional resources are authorized for this priority and could be further enhanced with available resources authorized for technology services within that account.

If funded, the NIST strategy for laboratory technology transfer should be funded out of the Industrial Technology Services authorization. The Committee recognizes the need to

strengthen 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. In FY 2014, Congress approved \$128 million for NIST's Manufacturing Extension Partnership (MEP) and \$15 million for the Advanced Manufacturing Technology program. The FIRST Act authorizes nearly \$130 million for MEP in FY 2015. MEP has a proven track record of success and an existing network of partnerships. Instead of creating a new network of institutes, as the Administration proposes, we should build on the success of the existing MEP program and its partner centers.

Office of Science and Technology Policy (OSTP)

Citing Executive Privilege, OSTP has refused the Committee's repeated requests for U.S. Chief Technology Officer Todd Park to testify on his role in co-chairing the White House Steering Committee to build the Healthcare.gov website. At no time during Science Committee oversight hearings or briefings over the past several years did OSTP ever mention the Office's role with the Healthcare.gov website. Further, OSTP's staffing has grown significantly over the past several years, mostly through agency detailees. Since OSTP neither demonstrates an unwillingness to be held accountable for its actions nor provide transparency to the American people, the Committee recommends a funding reduction of \$1 million for OSTP, commensurate with the size of the Office of the Chief Technology Officer.

Department of Energy (DOE)

The Department of Energy (DOE) funds a wide range of research, development, demonstration and commercial application activities. The overall FY 2015 budget request for DOE is \$27.94 billion, which represents a \$716 million or 2.6 percent increase over enacted FY 2014 levels (\$27.22 billion). A little over a third of this amount is directed to civilian energy research, development, and demonstration programs in the Science Committee's jurisdiction. The budget request also reflects a reorganization of the Energy Department into three Under Secretariats (Energy and Science, Nuclear Security, and Management and Performance). The Committee recognizes the importance of energy development to America's economic future, but has serious concerns with the overall spending and asymmetric prioritization within the President's budget request. Rather than late-stage demonstration and deployment efforts, DOE's top 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.

Office of Science

The DOE Office of Science (SC) is the federal government's primary supporter of long-term basic research in the physical sciences, as well as design, construction, and operation of major scientific user facilities. The FY 2015 budget request for SC is \$5.1 billion, a 0.9 percent increase over enacted FY 2014 levels. The Science Committee recognizes the key scientific role the Office of Science performs in the federal government's research capabilities. 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. We also acknowledge SC's record of excellence in managing world-class scientific facilities, which deliver revolutionary scientific breakthroughs in numerous scientific disciplines. Accordingly, the Committee believes the Office of Science should be the highest priority for DOE R&D programs and should be the focus for any available increases, especially in Basic Energy Sciences and Advanced Scientific Computing Research. However, in light of budget circumstances, the Committee believes there are other opportunities within the DOE budget for reductions in spending.

The Administration's budget request of \$2.3 billion for the Office of Energy Efficiency and Renewable Energy (EERE) represents a 21.9 percent (\$416 million) increase from the FY 2014 enacted level. The Committee strongly objects to the requested increase in EERE's budget. This concern is based on EERE's focus on incremental, relatively low-impact technological advances which pose the potential for overlap and duplication resulting from the DOE's multitude of programs. Further, beyond specific programmatic concerns, the ability of EERE to responsibly manage and effectively oversee a nearly 10.1 percent year-over-year budget increase since FY 2008 is questionable. The Committee recommends that the DOE budget reflect the proper role of the federal government by prioritizing basic research in the Office of Science, rather than the increasingly gratuitous approach of picking winners and losers.

Nuclear Energy

The Administration's request for the DOE Office of Nuclear Energy (NE) is \$863.4 million, a 2.8 percent reduction from the enacted FY 2014 appropriation. The Committee objects to these proposed budget cuts for NE, especially in light of the Administration's misplaced, unjustified increases in other parts of the DOE budget. Accordingly, the Committee supports continuing analytical examination of issues associated with nuclear safety and the development of small modular reactor designs in collaboration with the Nuclear Regulatory Commission.

Fossil R&D

The DOE Office of Fossil Energy (FE) supports research and development focused on coal (including "clean coal" technologies), natural gas, and petroleum, and also supports the federal government's Strategic Petroleum Reserve. The President's FY 2015 budget request for Fossil Energy R&D is \$475.5 million. This reflects a reduction of 15.4 percent from its FY 2014 enacted level of \$561.9 million. The Committee has serious concern about the way the Administration's budget request undermines fossil fuel research and technologies while providing a hefty increase for renewable technologies.

The Committee continues to support a real "all-of-the-above" approach to energy policy centered on aggressively developing domestic energy resources to ensure access to abundant and affordable energy. However, President Obama's reluctance to support research in fossil energies is clearly reflected in the substantial cuts for carbon capture (-16.3%), carbon storage (-26.4%), and advanced energy systems (-48.7%). The National Energy Technology Laboratory has been spared, with a proposed reduction (-32%) to \$35 million. The Science Committee is

disappointed to see the budget again propose to eliminate the Ultra-Deepwater and Unconventional Fossil Energy Technologies programs.

The shift away from fossil development is coupled with new funding for initiatives that may even place limitations on the use of natural gas. For the first time, the Administration requested a \$25 million allotment for carbon capture and storage demonstrations for natural gas. Likewise, the Committee is skeptical of the DOE request for \$35 million for the Natural Gas Technologies Program. This is dedicated to a new priority collaboration with the Environmental Protection Agency and the U.S. Geological Survey to "understand and minimize the potential environmental, health, and safety impacts of shale gas development through hydraulic fracturing." The budget provides very little information on what research topics or questions this funding seeks to answer, and the Committee is concerned that this program is intended to simply identify additional opportunities for the Administration to regulate hydraulic fracturing. The Committee supports the current practice of state-led regulation of hydraulic fracturing and is concerned that the Administration seems to be actively searching for a reason to regulate this abundant domestic energy resource.

DOE Loan Programs

The FY 2015 Loan Programs Office budget request will allow the Innovative Technology Loan Guarantee Program to continue active monitoring of closed projects while increasing efforts to deploy \$28 billion in loan authority and \$169.6 million in section 1703 credit subsidies for innovative energy technologies.

The loan guarantee program offers businesses the ability to secure below market financing rates. Private financial institutions have a record of supporting economically feasible and valuable projects. Highly developed financial markets have the necessary tools to evaluate the relative worth of an energy project and provide the appropriate level of financing. Accordingly, the federal government should avoid interference in energy technology markets that results in "picking winners and losers" among competing companies and technologies. This concern is further exacerbated by political favoritism that drove decision-making associated with loan decisions made earlier in this Administration. In light of the loan guarantees program's troubling record, the Committee supports funding only those activities necessary to support the existing portfolio of loan programs, but recommends rescinding funds for new credit subsidies.

U.S. Global Change Research Program

The U.S. Global Change Research Program (USGCRP) FY 2015 budget request is \$2.5 billion, an increase of \$12 million or 0.5 percent above the FY 2014 estimated levels. USGCRP coordinates and integrates Federal research and applications related to global climate change and in support of the President's Climate Action Plan. Despite the expected completion of the National Climate Assessment in FY 2014, the USGCRP FY 2015 budget includes significant increases in the contributions from the Department of Energy (up 13 percent to \$246 million), the Department of Commerce including NOAA and NIST (up 6 percent to \$348 million), the Department of the Interior/USGS (up 33 percent to \$72 million) and the U.S. EPA (up 11 percent to \$20 million). The Committee remains concerned that these inter-agency efforts have never

fallen from 2009 stimulus levels; in fact, the FY 2015 request is more than half a billion dollars, or more than 25 percent, above FY 2008 levels. Similarly, additional funds are being requested for other program areas not contained in the USGCRP request, including \$5.2 billion for DOE's Clean Energy Technologies, and \$1 billion for a new Climate Resilience Fund. The Committee views these requests as ill-defined and fiscally-irresponsible.

National Oceanic and Atmospheric Administration (NOAA)

NOAA's FY 2015 budget request is \$5.5 billion, an increase of \$174.1 million or 3.2 percent above the FY 2014 enacted levels. Within that amount, over \$2.24 billion is for the National Environmental Satellite, Data and Information Service (NESDIS), a \$161.9 million or 7.8 percent, increase over FY 2014 levels. The NESDIS budget primarily funds the Joint Polar Satellite System (JPSS) and the Geostationary Operational Environmental Satellites (GOES) acquisition programs. The Committee remains concerned that the NESDIS request now constitutes more than 40 percent of NOAA's overall request, a dramatic departure from FY 2008 levels when NESDIS spent less than \$1 billion, representing less than one-quarter of the overall NOAA budget.

The Science 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 over two times larger than that for weather research (\$188.3 million vs. \$84.9 million, respectively). The FY 2015 request includes an increase of more than \$30 million for climate research (a more than 20 percent jump from FY 2014 enacted levels). This portfolio is not in sync with the public safety needs of the American people and should be rebalanced.

The Committee supports fully implementing H.R. 2413, the Weather Forecasting Improvement Act. H.R. 2413 reported by the Science Committee and pending House consideration, prioritizes weather R&D and technology transfer to operations in the Office of Oceanic and Atmospheric Research at \$120 million. This will make possible accelerated development and deployment of transformative global and regional weather models, enabling graphic processing supercomputing, institutionalized Observing System Simulation Experiments, and new aerial weather observing systems for better meteorological data. The bill authorizes \$20 million of dedicated OAR funding for the direct transfer of new knowledge, technologies, and applications to the National Weather Service and other agencies and entities under a "real-time research" approach.

The Committee recognizes that NOAA's Earth System Prediction Capability (ESPC) includes both weather and climate prediction research. ESPC funds allocated to OAR's Weather Labs and Cooperative Institutes should be exclusively used for improvement of weather models associated with prediction of major storms, tropical storm tracks, tornado outbreaks and other phenomena of great importance to protecting the public from hazards. Climate funding should

only be used for the ESPC model prediction efforts that go beyond the weather hazards time scale of forecasts out to two weeks.

The Science Committee supports full-funding for the GOES weather satellites, as they are too important to fail the American public. However, the Committee remains concerned with the cost, potential forthcoming gap in weather satellite data, and NOAA's mismanagement of JPSS (estimated lifecycle cost for JPSS is \$11.3 billion through 2025). 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, independent review found NOAA's management still to be "dysfunctional" and elucidated on various management problems and recommended solutions. The Committee only supports funding for JPSS if the Administration provides much greater transparency with independent cost estimates for the program and requires much more proactive management within NOAA and the Department of Commerce. Further, in order to mitigate the impact of a gap in weather satellite coverage, and as a condition of JPSS funding, Congress must require NOAA to immediately and objectively consider and implement alternative, less-costly sources of weather data and monitoring capabilities. Such consideration should include observing system simulation experiments to assess the value of data from Global Positioning System radio occultation and a geostationary hyperspectral sounder global constellation.

The Science Committee generally supports the overall National Weather Service budget request of \$1.06 billion in FY 2015, a modest decrease from FY 2014. The Committee is supportive of efforts to implement recent management recommendations from the National Academy of Sciences and the National Academy of Public Administration. However, the Committee is concerned that the Administration's proposal to reduce or eliminate certain observational networks or the Hurricane Forecast Improvement Program. This proposal is counter to past recommendations from these bodies and the U.S. weather enterprise.

Within the climate research program, the Committee supports the National Integrated Drought Information System (NIDIS) at \$13.5 million, a vital research program for communicating drought information to the states. The Science Committee recently reported the NIDIS Reauthorization Act of 2014, sponsored by Representative Ralph Hall of Texas. The bill has since been signed into law, underscoring an important, practical program beneficial to all Americans.

Environmental Protection Agency (EPA)

EPA's FY 2015 Science and Technology (S&T) budget request is \$763.8 million (less than a 1 percent increase), and the request for the Agency's Office of Research and Development request is \$537.3 million.

The Administration's ambitious regulatory agenda should be dependent on, and ultimately determined by, objective, transparent scientific and technical information. Unfortunately, Science 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. Specifically, EPA S&T funding should be made strictly contingent on requiring the EPA Administrator to specifically identify and make publicly available all scientific and technical information relied on to support a risk, exposure, or hazard assessment, criteria document, standard, limitation, regulation, regulatory impact analysis, or guidance.

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 Science 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.

Further, all these overwhelming problems and serious integrity concerns of fraud and abuse justify a robust EPA Inspector General (IG) operation and full funding of their \$57.2 million request. The Committee is troubled by reports that the EPA Office of Homeland Security office refuses to cooperate with the EPA IG. Therefore, funding for this Office should also be contingent on its submission to full IG oversight jurisdiction.

Department of Homeland Security (DHS)

The FY 2015 budget request for the Department of Homeland Security Science and Technology Directorate (DHS S&T) is over \$1.07 billion, a decrease of \$148.2 million or 12.2 percent from the FY 2014 enacted level. The FY 2015 budget request for the Domestic Nuclear Detection Office (DNDO) is \$304.4 million, a \$19.2 million or 6.7 percent increase from the FY14 enacted 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 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 Department of Transportation FY 2015 budget request has moved all activities currently performed by the Research and Technology Administration (RITA) to a new office within the Office of the Secretary. The RITA Administrator would become the Assistant Secretary for Research and Technology. The FY 2015 budget request for the research and

development activities of the new Office of the Assistant Secretary for Research and Technology is \$14.6 million, which is \$0.2 million below the FY 2014 enacted level.

Federal Aviation Administration

FAA Office of Commercial Space Transportation

The Federal Aviation Administration's Office of Commercial Space Transportation (FAA-AST) plays a critical role in ensuring the safe development of space vehicles under the Commercial Space Launch Act. It is imperative that the Administration continue its efforts to provide a regulatory environment that fosters growth without burdensome regulations. This year, the FAA requested \$16.6 million for FAA-AST, which represents an increase of \$274,000 relative to the Omnibus Appropriations bill passed last year.

For several years the FAA projected dramatic increases in commercial space activity without corresponding requests for increases in budget to handle this activity; this year is no exception. In the Administration's budget request, the FAA asserts that it expects to process applications for 51 launches. This would be an increase of 54 percent over FY2014; however, the Administration is not requesting significant increases in staff to handle the forecasted workload stating, "Compared to FY 2014, the FY 2015 budget does not involve an increase in staff, because the budget is based on the assumption that it will be possible to increase productivity sufficiently to meet the challenge of industry growth."

The Science Committee recognizes that commercial space launch activity is rising. It is the responsibility of FAA-AST to protect the uninvolved public during these launches. Based on the statement of FAA and the budget justification, the Committee is concerned that either:

1. The Administration does not believe there will be a dramatic increase of launches and therefore does not need increases in its budget;
2. FAA-AST was grossly overstaffed in past years and the unused capacity at the Office is just now being optimized; or
3. FAA-AST is overly optimistic in predicting the efficiencies it may be able to find.

FAA Research, Development and Technology

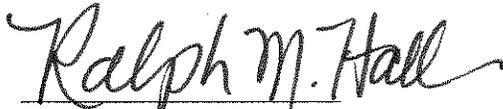
The Science Committee recognizes the importance of the FAA's practical research program for aviation safety. The FY 2015 budget request provides \$282.1 million for Research, Development and Technology, an 11.9 percent reduction (approximately \$38 million) from FY 2014 enacted levels of \$320.4 million. The Research, Engineering and Development (R, E, and D) account requested \$156.8 million, approximately \$2 million less than FY 2014 enacted levels of \$158.8 million. R, E, and D work in Research, Development, and Technology pertains to aviation safety, improving efficiency, reducing environmental impacts, and mission support.

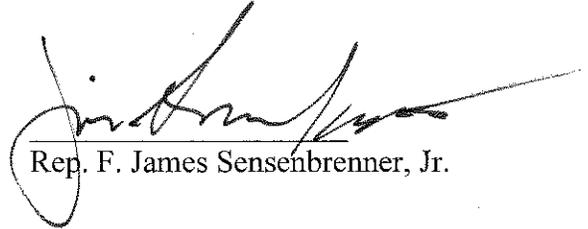
1. The Facilities and Equipment account requested \$69.8 million, almost \$37 million below FY 2014 enacted levels of \$106.6 million.

2. The Airport Improvement Program, Airport Technology account requested \$44.8 million, nearly identical to FY 2014 enacted levels of \$44.5 million.
3. The Operations account requested \$10.8 million, almost identical to FY 2014 enacted levels of \$10.5 million.


Rep. Lamar Smith

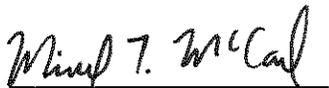

Rep. Dana Rohrabacher


Rep. Ralph M. Hall


Rep. F. James Sensenbrenner, Jr.


Rep. Frank D. Lucas


Rep. Randy Neugebauer

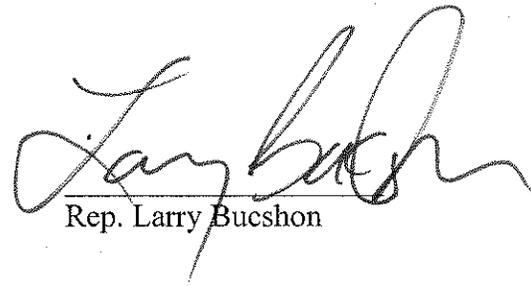

Rep. Michael T. McCaul

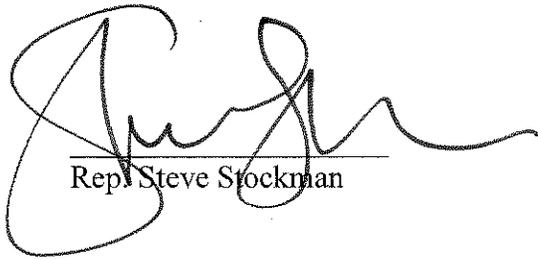

Rep. Paul C. Broun


Rep. Steven M. Palazzo

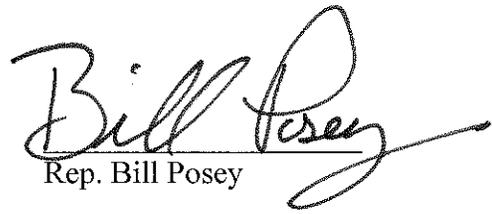

Rep. Mo Brooks


Rep. Randy Hultgren


Rep. Larry Bucshon



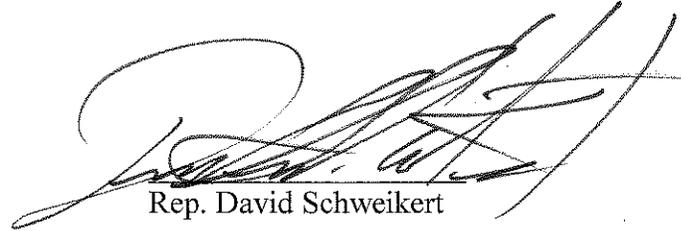
Rep. Steve Stockman



Rep. Bill Posey



Rep. Cynthia Lummis



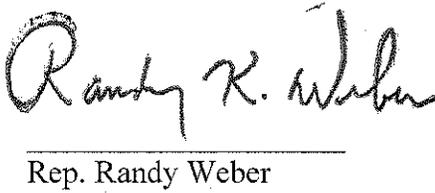
Rep. David Schweikert



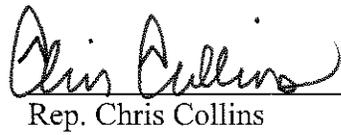
Rep. Kevin Cramer



Rep. Jim Bridenstine



Rep. Randy Weber



Rep. Chris Collins

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Congress of the United States
House of Representatives

Committees:

FOREIGN AFFAIRS

Chairman, Subcommittee on
Europe, Eurasia, and Emerging Threats
Subcommittee on Asia and the Pacific

SCIENCE, SPACE, AND TECHNOLOGY
(VICE CHAIRMAN)

Subcommittee on Space
Subcommittee on Environment

ADDITIONAL VIEWS

OF HON. DANA ROHRBACHER

COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY

FISCAL YEAR 2015 BUDGET

I strongly agree with the Committee's Views and Estimates, but I wish to state a stronger view on certain space topics.

National Aeronautics and Space Administration

The Committee highlights the importance of the Commercial Crew program, which I believe remains our most critical near-term civil space goal. Continued reliance on the Russians, who have been good partners, is becoming difficult. Over the past few years their prices have continued to rise, their vehicles have encountered technical issues, and the geopolitical situation has grown more complex.

I, however, believe that the best way to achieve our primary goal – launching American astronauts as soon as possible on American rockets – is by enabling one of our secondary goals. We should encourage NASA to certify multiple, independent, commercial systems that can bring people safely to orbit and return them to Earth. Competition provides cost savings and schedule reduction incentives that sole source contracts do not. In addition, it makes little sense to retain the tremendous risk from a single point of failure by simply shifting from Soyuz to a single domestic provider.

Despite repeated direction from Congress, I have seen no evidence to suggest that Orion is being given the resources or flexibility it would need to serve as a backup capability for Commercial Crew to ISS. Modifications would be needed for Orion since this extraordinary spacecraft has been optimized for deep space exploration missions. A second Commercial Crew provider could be certified for less funding than would be needed to make the required task-specific modifications to Orion, with the added benefit of maintaining the focus for the Orion team on deep space exploration.

I strongly agree with the Committee that the requested funding for the SLS is inadequate to fulfill the mission. I will go much further and say that I don't believe any reasonable amount from NASA will ever be adequate to regularly fly the SLS. Our Exploration program funding remains wholly inadequate to the mission we have given it. The funding is inadequate to the mission in Fiscal Year 2014, as it was in 2013, 2012, 2011... and back into the past. We refuse to acknowledge the reality, as pointed out by the Augustine Commission, that a mission cannot succeed when it does not match the available funding.

One of the Augustine Commissioners stated that, if Santa Claus himself were to bring down our planned launch vehicle fully designed, tested, and ready to build; we still could not afford to own and operate it within the then-expected budget profile. We are significantly below that level today, and will remain so for the foreseeable future.

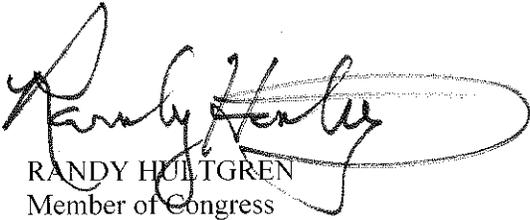
SLS is unaffordable, unnecessary and increasingly unreasonable. We do not need a supermassive heavy lift vehicle to explore the Moon, Mars, or near-Earth asteroids, as long as we are willing to fund relatively modest technology development efforts.

For FY 2015, the Earth Science program request at NASA is nearly \$1.8 billion. NASA's core and unique mission is exploring space. These programs should not be located at NASA, and they continue to divert resources, focus, and expertise away from that core mission.

A handwritten signature in black ink, appearing to read "Dan R..." with a stylized, cursive flourish at the end.

Rep. Randy Hultgren – Illinois 14th Congressional District
Additional Views and Estimates for the Science, Space and Technology Committee

As the largest federal funding source for the physical sciences, the Department of Energy Office of Science plays a critical role supporting discovery science. In this leadership role, it is important that the programs within the Office of Science carry out a balanced portfolio of research to underpin the nation's scientific enterprise and technology innovation. In fields such as High Energy Physics, which is international in scope, the United States must continue to play a vital role to existing partnerships while building exciting experiments at our national laboratories, such as the Fermi National Accelerator Laboratory in Illinois. The High Energy Physics international collaborations build large and complex scientific experiments, and within constrained federal budgets, the United States should promote stronger ties with international partners through the continued support necessary for promoting scientific diplomacy, securing contributions to these significant scientific projects, enhancing opportunities to train our next generation of young scientists, and incubating new high-tech industries.



RANDY HULTGREN
Member of Congress

**Minority Views and Estimates of the Democratic Caucus of the Committee on
Science, Space, and Technology on the FY 2015 Budget Request for
Submission to the Budget Committee**

The Budget Resolution that these Views and Estimates are intended to inform will be the first one to be prepared since Congress decided to move beyond the destructive constraints imposed by sequestration. Sequestration forced cuts to many essential services, but one of its most pernicious impacts was to defer needed investments in research and education—investments that are critically needed if the United States is to remain globally competitive. Our economic competitors recognize the benefits to be obtained from investing in R&D and STEM education, and are increasing their commitment to these areas.

In that regard, we are heartened that the President recognizes the importance of such investments even within the limits imposed by the budget agreement, and that his budget request includes a fully offset Opportunity, Growth, and Security Initiative that will allow increased funding to be provided for research and education beyond what would be possible under the budget agreement alone. Specifically, these additional monies would allow year to year budget increases for the following key research and development agencies, with FY 15 requests as follows: NSF \$7.807 billion (8.9% increase over FY14); NIST \$1.02 billion (20% increase); NASA \$18.346 billion (4% increase); and, DOE Science, EERE, and ARPA-E accounts \$8.492 billion (17 % increase). While we may differ on the merits of specific allocations in the President's budget request, we strongly support his commitment to investing in our future.

As we have said in past Democratic submissions to the Budget Committee, the choice facing our nation is a critical one. Either we make the investments in R&D and innovation that will lead to job creation and improved quality of life now and in the future—or we go down the path of arbitrary and short-sighted cuts to America's science and technology enterprise and the STEM education activities that support it. That latter path will inevitably lead to a future for America that will disadvantage our children and grandchildren.

We choose to invest. It is clear that the nation's R&D agencies have returned significant economic and societal benefits to the American people over

the years. The historical record is clear on that point. We have every reason to expect that future investments will *continue* to deliver significant benefits if we have the foresight to maintain our commitment to fostering R&D and STEM education.

Thus, while there may be specific elements of the Majority's Views and Estimates that some of us can support, the overall negative message and mischaracterizations, misguided policy prescriptions, and failure to invest adequately in key parts of our research and development enterprise make it a document that we cannot embrace.

As the Budget Committee works to craft its Budget Resolution, we urge its Members at least maintain the historical levels of federal investment in R&D and STEM education and hopefully do better than that, whether in basic research, energy technology innovation, aeronautics and space exploration, manufacturing, climate science, or any of the other important elements of our nation's R&D and innovation enterprise. Given the criticality of R&D and STEM education to our nation's future, we see the overall levels in the President's FY 15 budget request and Opportunity, Growth, and Security Initiative as worthy of support. If we shortchange those accounts in an attempt to cut a few more dollars from the deficit over the short-term, the reality is that we will wind up shortchanging our future economy and quality of life. On the other hand, we believe that increased investment in these areas will pay significant dividends over the long run. The choice is clear. We hope that the Members of the Budget Committee will choose the more productive path.

Minority Views and Estimates of the Democratic Caucus of the Committee on
Science, Space, and Technology on the FY 2015 Budget Request for
Submission to the Budget Committee

Eddie Bernice Johnson

Jim Panter

Mark Shriver

Spencer Bonner

Donna F. Edwards

Daniel Lipinski

Zoe Lofgren

Jo Kuhl

Eric Swalwell

M. V. ...

Debbie Lujan

Judith S. Wilson

Alan Grayson

Paul Kasey

...

Elizabeth H. Esty

Paul B. Maffei

...

Additional Views and Estimates of

Representative Zoe Lofgren

House Committee on Science, Space and Technology
on the FY 2015 Budget Request for Submission to the Budget Committee

3/25/14

In addition to supporting the Minority Views and Estimates of the Democratic Caucus of the Committee on Science, Space and Technology, which recognize the importance of strong, sustained investment in research and development and science education, I would like to raise before the committee a particular concern.

The Administration's Budget includes difficult decisions to remain within the budget caps established by the Bipartisan Budget Act of 2013, but includes prudent additional investments in the Opportunity, Growth, and Security Initiative. However, under either scenario, the Administration proposes cutting the National Aeronautics and Space Administration's (NASA) Stratospheric Observatory for Infrared Astronomy (SOFIA).

SOFIA is the world's largest airborne observatory. This airplane-based telescope has only come fully online in the past month after over a decade of development and construction, and over \$1 billion dollars invested. The telescope will allow astronomical research that cannot be done in other ways, providing a unique vantage on our solar system, galaxy and the history of the Universe. SOFIA was built and planned to be operated as a partnership with the German Space Agency. SOFIA also provides a unique educational platform, including K-12 science teachers on research flights, with the professional astronomers and technicians.

Canceling this program now would be an affront to our partners, a waste of a significant investment, a major blow to science and education, and a loss of hundreds of high-quality jobs.

I ask the Budget Committee include a role for this valuable scientific and educational tool in their budget resolution.

A handwritten signature in black ink, appearing to read "Zoe Lofgren". The signature is fluid and cursive, with a long horizontal stroke at the end.

**Minority Views and Estimates of Rep. Suzanne Bonamici, Ranking
Member, Subcommittee on Environment of the Committee on Science,
Space, and Technology on the FY 2015 Budget Request for Submission to
the Budget Committee**

I support the President's budget request for the National Oceanic and Atmospheric Administration. NOAA's support for oceans, fisheries, climate and weather research is crucial to jobs, the environment and public safety. The request for the Office of Oceans and Atmospheric Research (OAR) would support \$30 million in growth for the climate office at OAR compared to the FY2014 enacted level (to a total of \$188 million), with half of that growth going to support the expansion of regional climate programs aimed at preparing for the effects of climate change and predicting climactic conditions such as drought. Much of the climate research is directly relevant to improving our ability to make more accurate weather predictions at time frames beyond 14 days. The request for the weather portfolio at OAR shows just a \$3 million increase over the FY2014 enacted level, but that comes on the heels of an effective 25% increase in funding this account in the growth between FY2013 (\$65 million) and FY2014 (\$81 million). This seems a responsible level of growth as the program absorbs the large existing increase. Research into weather is also supported by the National Weather Service, which is requesting \$123 million for FY2015. The combination would represent an investment of \$207 million compared to \$188 million requested for climate research. Finally, the oceans account at OAR represents a \$4 million decrease for a total of \$163.5 million in FY2015.

Every expert witness to appear before the Committee in the last year emphasized that it would be shortsighted to choose one area of NOAA research over others if our intent is to improve weather forecasting. The interconnection between oceans, climate and weather are such that research questions needed to move forecasting skill forward may actually reside in the physics of ocean heat transfer, for example, rather than in a new computer array.

The Committee passed H.R. 2413, the Weather Forecasting Improvement Act of 2014, late in the first session of this Congress. That bill, which includes a significant bipartisan manager's amendment that I cosponsored, is silent on funding across accounts in OAR and largely silent on weather research and development as carried out by the National Weather

Service. However, with an overall authorization ceiling for OAR core weather work of \$100 million for FY2015, the President's request is supportive of the bill's priority for weather.

I encourage the Administration to embrace the policy changes incorporated into the bipartisan Weather Forecasting Improvement Act, as they represent ideas drawn from the work of the National Academies and the broader weather enterprise. The bill also contains provisions that encourage NOAA to move more expeditiously toward tapping the potential of commercial firms to supply data used for weather forecasting and to take steps to insure that extramural research receives a substantial proportion of funds provided to OAR for its research work in weather.

A handwritten signature in cursive script, reading "Suzanne Bonamici". The signature is written in black ink and is positioned in the lower right quadrant of the page.